Electronics Technician – Consumer Products

1997

Human Resources Development Canada
Développement des ressources humaines Canada

LM-490-03-98E

Occupational Analyses Series

Electronics Technician - Consumer Products

1997

Standards, Planning
and Analysis

Human Resources
Partnerships Directorate

Normes, planification
et analyse

Direction des partenariats
en ressources humaines

Disponible en français sous le titre : Technicien/technicienne en électronique - Produits du consommateur et de la consommatrice

The Canadian Council of Directors of Apprenticeship (CCDA) recognizes this occupational analysis as the national standard for the occupation of electronics technician - consumer products.

103-03015/

ACKNOWLEDGEMENTS

Human Resources Development Canada wishes to express sincere appreciation for the contribution of the many industrial establishments, professional associations, labour organizations, tradespersons, provincial and territorial government departments and agencies, and all others who contributed, directly or indirectly to this publication.

Special acknowledgement is extended to Gary Worger of the Northern Alberta Institute of Technology, who developed the analysis with the following representatives from the electronics industry:

Mike Barnes	Alberta
Bob Bielak	Alberta
Al Chambers	Alberta
Pierre Chiasson	New Brunswick
Steve Emmonds	Ontario
Huby Iowin	Yukon
Saverio Miele	Ontario
Don Parks	Saskatchewan
Joe Prefontaine	Alberta
Glen Scott	Prince Edward Island
Gordon Turnbull	Manitoba

This analysis was prepared by the Human Resources Partnerships Directorate. The planning, coordination and processing of the analysis were undertaken by staff members of the Standards, Planning and Analysis Division.

OTHER RELATED OCCUPATIONAL TITLES

This analysis covers tasks found in the occupation having the following names, as identified by the different provinces and territories of Canada:

Radio and TV Service Technician
Electronic Technician

LIST OF PUBLISHED OCCUPATIONAL ANALYSES *

TITLE	NOC** Code
Appliance Service Technician (1997)	7332
Aquaculture Technician (1977)	2221
Arts Administrator (1989)	0114
Automotive Painter (1995)	7322
Automotive Service Technician (1995)	7321
Automotive Technician - Automatic Transmission (1990)	7321
Automotive Technician - Electrical/Electronics (1992)	7321
Automotive Technician - Engine Repair and Fuel Systems (1989)	7321
Automotive Technician - Front-End (1989)	7321
Automotive Technician - Manual Transmission, Driveline and Brakes (1990)	7321
Aviation Machinist (1994)	7231
Baker (1997)	6252
Blaster (Surface) (1987)	7372
Boilermaker (1994)	7262
Bricklayer (1993)	7281
Cabinetmaker (1992)	7272
Carpenter (1993)	7271
Cement Finisher (1995)	7282
Construction Electrician (1994)	7241
Cook (1997)	6242
Electrical Mechanic (1981)	7333
Electronics Technician - Consumer Products (1997)	2242
Electronics Technician Vol. I (1986) (Video Equipment)	2242

* **Red Seal analyses are indicated in bold**

** **National Occupational Classification**

Electronics Technician Vol. II (1986) (Audio Equipment)	2242
Electronics Technician Vol. III (1986) (Computer Equipment)	2242
Electronics Technician Vol. IV (1986) (Office Equipment)	2242
Electronics Technician Vol. VI (1986) (Communication Equipment)	2242
Electronics Technician Vol. VII (1986) (Signaling Equipment)	2242
Electronics Technician Vol. VIII (1986) (Navigation Equipment)	2242
Electronics Technician Vol. IX (1986) (Video Game Equipment)	2242
Electronics Technician Vol. X (1987) (CADD Equipment)	2242
Electronics Technician Vol. XI (1987) (CAM Equipment)	2242
Electronics Technician Vol. XII (1987) (Robotics Equipment)	2242
Electronics Technician Vol. XIII (1987) (Biomedical and Laboratory Equipment)	2242
Electronics Technician Vol. XIV (1987) (Industrial Process-Control Equipment)	2243
Farm Equipment Mechanic (1994)	7312
Floorcovering Installer (1997)	7295
Glazier (1994)	7292
Hairstylist (1997)	6271
Heating (Gas and Oil) Servicer - Commercial and Industrial (1978)	7331
Heavy Equipment Mechanic (1987)	7312
Heavy Equipment Operator (1983)	7421
Industrial Electrician (1997)	7242
Industrial Instrument Mechanic (1988)	2243
Industrial Mechanic (Millwright) (1996)	7311
Insulator (Heat and Frost) (1993)	7293
Ironworker (Generalist) (1993)	7264
Lather (Interior Systems Mechanic) (1994)	7284

Logistics (1992)	0713
Machinist (1992)	7231
Major Electrical Appliance Repairer (1984)	7332
Mobile Crane Operator (1997)	7371
Motorcycle Mechanic (1995)	7334
Motor Vehicle Body Repairer (Metal and Paint) (1997)	7322
Motor Vehicle Repairer (Truck and Transport) (1983)	7321
New Home Builder and Residential Renovation Contractor (1992)	0712
Oil Burner Mechanic (1997)	7331
Painter and Decorator (1993)	7294
Partsperson (1995)	1472
Plumber (1996)	7251
Power Engineer (1997)	7351
Powerline Technician (1996)	7244
Refrigeration and Air Conditioning Mechanic (1997)	7313
Roofer (1997)	7291
Sheet Metal Worker (1997)	7261
Sprinkler System Installer (1995)	7252
Steamfitter-Pipefitter (1996)	7252
Steel Fabricator (Fitter) (1994)	7263
Tool and Die Maker (1997)	7232
Truck-Trailer Repairer (1994)	7321
Welder (1996)	7265

REQUESTS FOR THESE PUBLICATIONS SHOULD BE FORWARDED TO:

Standards, Planning and Analysis Division
Human Resources Partnerships
Human Resources Development Canada
Place du Portage, Phase IV, 5th Floor
Hull, Quebec
K1A 0J9

FOREWORD

The first National Conference on Apprenticeship in Trades and Industries, held in Ottawa in 1952, recommended that the federal government be requested to co-operate with provincial apprenticeship committees and officials in preparing analyses of a number of skilled occupations. To this end, Human Resources Development Canada sponsors a program, under the guidance of the Canadian Council of Directors of Apprenticeship (CCDA), to develop a series of occupational analyses.

The Occupational Analysis Program has the following objectives:

- to identify and group the tasks performed by skilled workers in particular occupations;
- to identify those tasks that are performed by skilled workers in every province and territory;
- to develop instruments for use in the preparation of interprovincial standards "Red Seal" examinations and curricula for training leading to the certification of skilled workers;
- to facilitate the mobility, in Canada, of trainees and skilled workers; and
- to supply employers and employees, and their associations, industries, training institutions and governments with analyses of the tasks performed in particular occupations.

TABLE OF CONTENTS

Page

ACKNOWLEDGEMENTS i

OTHER RELATED OCCUPATIONAL TITLES ii

LIST OF PUBLISHED OCCUPATIONAL ANALYSES iii

FOREWORD vii

Guide to Analysis

DEVELOPMENT OF ANALYSIS xv

STRUCTURE OF ANALYSIS xv

VALIDATION METHOD xvi

SCOPE OF ANALYSIS xvii

OBSERVATIONS AND TRENDS ARISING FROM ANALYSIS xviii

Analysis

BLOCK A SAFETY

Task 1 Demonstrates safe working practices and techniques. 3

BLOCK B WORKPLACE PRACTICES AND PROCEDURES

Task 2 Follows company policies and procedures. 6

Task 3 Applies written and oral communication skills. 8

Task 4 Uses and maintains equipment and tools. 12

Task 5 Disposes of equipment, components or devices 16

Page

Task 6 Upgrades skills and knowledge. 17

BLOCK C SERVICE AUDIO EQUIPMENT COMPONENTS AND DEVICES

Task 7 Services digital and analog audio recording and playback systems and associated components. 18

Task 8 Services radio receivers and transmitters. 28

Task 9 Services musical systems and instruments. 38

Task 10 Services audio amplification systems. 48

BLOCK D SERVICE VIDEO EQUIPMENT COMPONENTS AND DEVICES

Task 11 Services televisions. 58

Task 12 Services video players/recorders. 70

Task 13 Services monitors. 79

Task 14 Services video entertainment equipment. 88

Task 15 Services satellite receiver systems. 98

Task 16 Services video cameras. 107

Task 17 Services cable converters and decoders. 116

Task 18 Services video display devices. (Large projection television screens) **(NOT COMMON CORE)** 125

BLOCK E SERVICE TELEPHONE ANSWERING EQUIPMENT COMPONENTS AND DEVICES

Task 19 Services cellular phones. **(NOT COMMON CORE)** 136

Task 20 Services cordless phones. 147

Task 21 Services fax machines. 157

Task 22 Services answering machines. 168

Page

Task 23 Services corded phones. 178

BLOCK F SERVICE COMPUTER EQUIPMENT COMPONENTS AND DEVICES

Task 24 Services computer monitors. 188

Task 25 Services computer hardware. 197

Task 26 Services printers. 207

Task 27 Services modems. **(NOT COMMON CORE)** 216

BLOCK G SERVICE MICROWAVE EQUIPMENT COMPONENTS AND APPLIANCES

Task 28 Services microwave ovens. 225

Task 29 Services microwave clothes dryers. **(NOT COMMON CORE)** 236

BLOCK H SERVICE REMOTE CONTROL EQUIPMENT COMPONENTS AND DEVICES

Task 30 Services radio frequency remote control devices. 247

Task 31 Services infrared remote control devices. 257

BLOCK I SERVICE POWER SUPPLY EQUIPMENT COMPONENTS AND DEVICES

Task 32 Services AC/DC generators. **(NOT COMMON CORE)** 267

Task 33 Services AC/DC converters/inverters. 280

BLOCK J SERVICE ANTENNA SYSTEMS

Task 34 Services satellite antenna systems. 291

Task 35 Services radio antenna systems. **(NOT COMMON CORE)** 303

Page

Task 36 Services television antenna systems. 313

Task 37 Services cellular phone antennas. 324

Appendices

Appendix "A" Tools and Equipment 339

Appendix "B" List of Acronyms 342

Appendix "C" Percentage Ratings 344

Appendix "D" Block Percentages 352

Appendix "E" Occupational Analysis Chart 355

GUIDE TO ANALYSIS

DEVELOPMENT OF ANALYSIS

A draft analysis is developed by a knowledgeable consultant who, with the assistance of a committee of industry experts in the field, identifies all the tasks performed in the occupation.

The draft is then assigned to occupational analysts at Human Resources Development Canada for review, translation and edit to ensure conformity with the nationally approved format.

The analysis is forwarded to provincial/territorial authorities for validation by specialists in the field. Their recommendations are assessed and incorporated into the final draft which also includes the identification of the common core tasks performed in the occupation.

The occupational analysis is published in both official languages.

STRUCTURE OF ANALYSIS

To facilitate the understanding of the nature of the occupation, the work performed is divided into the following divisions:

A. **BLOCK** - is the largest division within the analysis and reflects a distinct operation relevant to the occupation.

B. **TASK** - is the distinct activity that, combined with others, makes up the logical and necessary steps the worker is required to perform to complete a specific assignment within a "BLOCK".

C. **SUB-TASK** - is the smallest division into which it is practical to sub-divide any work activity and, combined with others, fully describes all duties constituting a "TASK".

Supporting Knowledge and Abilities

The element of skill and knowledge that an individual must acquire to perform the task adequately.

Trend

Any shifts or changes in technology that affect the sub-tasks are identified under this heading.

VALIDATION METHOD

At the request of the Canadian Council of Directors of Apprenticeship (CCDA), the Standardization Sub-Committee developed a method for the validation of the national Red Seal occupational analyses.

A draft of the analysis is sent to all provinces/territories for validation. Each jurisdiction rates the sub-tasks and applies percentage ratings to blocks and tasks. This method for the validation of the national occupational analyses identifies common core tasks across Canada for a specific occupation. This feature facilitates the weighting of the Interprovincial Red Seal examinations.

DEFINITIONS

YES:	the sub-task is performed.
NO:	the sub-task is not performed.
BLOCK %:	the average time a worker spends performing each block in a given year in relation to other blocks of the analysis, taking into consideration the complexity (importance plus difficulty) of the block. (See Appendices "C" and "D" for numerical and graphical representations of this specific occupation.)
TASK %:	the average time a worker spends performing each task in relation to other tasks within the block, taking into consideration the complexity (importance plus difficulty) of the task. (See Appendix "C" for numerical representation of this specific occupation.)
NV:	Not Validated by the province/territory.
ND:	Not Designated in that province/territory.

COMMON CORE

The criteria for determining common core are dependant on the performance of sub-tasks. If 70% of the responding jurisdictions (excluding NVs and NDs) perform the sub-task, it shall be considered common core.

In the analysis, Block A is reserved for safety practices. Since safety practices are a mandatory feature of all occupations, it is considered common core and ratings are not required.

Interprovincial Red Seal examinations are based on the common core identified through this validation process.

SCOPE OF ANALYSIS

The objective of this occupational analysis is to identify and analyze the tasks performed by Electronics Technicians - Consumer Products (ETCP). In this analysis, "consumer products" means any type of consumer electronic equipment and, without limiting the generality of the foregoing, includes:

a) audio equipment, components and devices
b) video equipment, components and devices
c) telephone answering equipment, components and devices
d) computer equipment, components and devices
e) microwave equipment, components, devices and appliances
f) remote control equipment, components and devices
g) power supply equipment, components and devices
h) antenna systems

The practice of the trade consists of the servicing of electronic products.

When practising or otherwise carrying out work in the trade, the following tasks, activities and functions come within the trade:

- interacting with customers and other workers
- using hand tools, hand power tools, testing equipment and specialty tools required by the trade
- applying electronic theory to electronic products
- terminating and connecting conductors and printed circuit boards contained within electronic products
- maintaining electronic products
- troubleshooting and diagnosing problems in electronic products
- servicing and repairing electronic products

Note: The body of the analysis is limited by the terms of reference to a description of "work performed" by an Electronics Technician - Consumer Products and omits identification of other factors, such as aptitudes and capacities, interests and temperaments, and the conditions under which the worker performs this duties. These extra data have been included in the form of appendices, not as a constituent part of the analysis, but as a by-product with the thought that such information may be useful to those agencies responsible for the development of training programs and counselling.

OBSERVATIONS AND TRENDS ARISING FROM ANALYSIS

An individual becoming involved with the electronics industry today, as a technician, must demonstrate a talent for trainability as upgrading to acquire knowledge of newly developed and more highly sophisticated equipment is continually required.

The field of Consumer Electronic Equipment (CEE) is constantly increasing as many types of equipment, formerly deemed as industrial or office related, are now being purchased and used by the average consumer. As a results, the ETCP must now be familiar with equipment that was previously serviced only by specialty repair outlets.

Due to the wide variety of CEE now available, larger shops are turning toward varying degrees of specialization to improve the efficiency of the repair process. This need for specialization is further compounded by the ever-increasing sophistication of and development of new equipment in this field. Another factor is the ver-decreasing cost of purchasing new CEE.

While emphasis is placed on specialization, it is a common occurrence in smaller service shops and rural areas particularly, for a ETCP to be qualified in more than one area due to diversified requirements from local clientele.

The need for retraining on functional and operational procedures, as opposed to matters of theory, is very evident among the senior technicians with more than five years field experience to due to rapid changes within the electronics industry, accompanied by the ever widening usage of electronics and computer applications in numerous, diversified fields. The need for knowledge updating is presently recognized in the following areas as being both extensive and immediate:

- Micro processors
- Digital circuits
- Servo systems
- Video equipment
- Audio equipment
- Telecommunications and data communications
- Microwave consumer device

Today's Electronics Technician - Consumer Products (ETCP) requires a good functional and operational knowledge of precision mechanisms and fine mechanical adjustments along with the obvious need for strong technical training and a demonstrated ability to adapt quickly when new products and applications are introduced. The industry has also expressed a pronounced necessity for training requirements relevant to customer relations, effective communications and business practice, while further noting that today's programs generally do not adequately address the skills for soldering and desoldering.

For the aforementioned reasons, the journeyman in this industry may be required to be a highly specialized individual demonstrating expertise involving any one of the functions identified in the Consumer Electronics Technician analysis.

The following major trends were identified:

- More manufacturers joining 'the game'

- Increasing stress relating to increasing customer expectations and knowledgeability as well as complexity of repairs
- Environmental requirements
- Changing warranties
- Improved product reliability
- Multi-use equipment
- Reduced service profit margins
- Obsolescence of models and parts
- Heavily increased need for P.R.
- Computerized Technology
- Third world manufacturing
- Frequency and complexity of installations is increasing

ANALYSIS

BLOCK A SAFETY

Task 1 Demonstrates safe working practices and techniques.

Trend: There is a noted increase in safety instructions involving survival first aid, Workplace Hazardous Materials Information System (WHMIS) and safe operation and handling of tools, equipment and materials. Increased importance of St. John's Ambulance and cardiopulmonary resuscitation (CPR) training.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
1.01	Obtains relevant laws and regulations.	ability to read, understand and interpret information such as Canadian Standards Association (CSA), Workers' Compensation Board (WCB) and WHMIS knowledge of first aid and fire protection equipment location knowledge of local police, fire department, emergency response	
1.02	Evaluates safety.	knowledge of applicable safety acts, WCB Regulations and employer's safety rules knowledge of location of first aid and fire protection equipment knowledge of fire, police and ambulance telephone numbers	first aid kit
1.03	Practises safe work habits.	knowledge of correct methods of lifting and carrying materials knowledge of correct methods of loading and unloading material deliveries knowledge of correct methods for handling and storage of cleaning fluids	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of safety precautions when lifting and kneeling	
1.04	Uses personal protective equipment and clothing.	knowledge of necessity to wear knee pads when kneeling	ladder, knee pads, safety belts
		knowledge of necessity to wear ear protection when testing audio	
		knowledge of necessity to wear eye protection during cathode ray tube (CRT) replacement and cutting	
		knowledge of necessity to wear safety shoes in all designated areas	
1.05	Practises good housekeeping.	ability to maintain cleanliness and order in work areas	
		knowledge of correct methods for storing tools and loose objects	
		ability to recognize hazardous situations	
		ability to dispose of hazardous materials	
		ability to keep walking aisles clear	
		ability to ensure first aid and fire protection equipment are accessible	
1.06	Practises safe use of hand and power tools.	ability to demonstrate safe and proper methods of using and carrying tools	drills, power drivers, glue gun, heat gun
		knowledge of hazards created by using defective tools	
		knowledge of safe use and operation of electrically powered tools	
		ability to ensure power tools and equipment are properly grounded	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of safe use and operation of equipment	
		knowledge of necessity to regularly check equipment and hand tools for wear and deterioration	
		knowledge of safe use and operation of stretching tools	
		knowledge of proper storage procedures for all tools	
		knowledge of cleaning methods and maintenance of all tools	
1.07	Works safely in enclosed areas.	knowledge of safety regulations when working in enclosed areas using toxic or flammable materials	fire extinguisher, first aid kit
		knowledge of correct placement of ventilation equipment	
		ability to take all necessary safety precautions when working with toxic or flammable materials	
1.08	Ensures proper fire protection.	knowledge of fire prevention, storage and handling of flammable materials, liquids, gases, adhesives and dust	fire extinguisher
		knowledge of hazardous electrical equipment	
		knowledge of fire precautions to be taken when working with flammable materials	
		knowledge of types of fires and operation of extinguishers	
		knowledge of importance to maintain clear exits at all times	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to locate fire extinguishers, fire hoses and sprinkler systems and fire department phone numbers	
1.09	Handles hazardous materials correctly and safely.	knowledge of cleaning fluids	
1.10	Attends safety meetings to obtain information on safety rules and safe work habits and procedures.	ability to communicate effectively knowledge of safe work practices knowledge of safety rules ability to provide constructive suggestions for work procedures	
1.11	Reports accidents and applies first aid if necessary.	knowledge of survival first aid, correct procedures for artificial respiration, mouth-to-mouth resuscitation, stopping bleeding and treatment for shock, wounds, burns, broken bones and eye injuries ability to notify proper authorities and complete accident report forms	

BLOCK B WORKPLACE PRACTICES AND PROCEDURES

Task 2 Follows company policies and procedures.

Trend: Due to economic climate, it is a necessity to follow company policies and procedures because business's profit margins are shrinking.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
2.01	Follows company ethics, policies and procedures.	ability to access company documents knowledge of relevant policies and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

2.02	Follows company customer relations policies and procedures.	ability to access company documents knowledge of relevant policies and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

2.03	Follows company service policies and procedures.	ability to access company documents ability to organize disassembled components and hardware knowledge of relevant policies and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

2.04	Follows company financial policies and procedures.	ability to access company documents knowledge of relevant policies and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

2.05	Follows company safety policies and procedures.	ability to access company documents	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of relevant policies and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

2.06	Follows company environmental policies and procedures.	ability to access company documents knowledge of relevant policies and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

2.07	Follows company warranty policies and procedures.	ability to access company documents knowledge of relevant policies and procedures	company documents

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Task 3 **Applies written and oral communication skills.**

Trend: Since poor communication is a major cause of profit loss, it is recognized that communication skills must improve.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
3.01	Identifies internal and external customers.	ability to analyze personal tasks and identify customer interaction events knowledge of company service procedures	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of company customer relations procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
3.02	Provides and receives information to/from other employees.	ability to apply interpersonal communication skills ability to analyze personal tasks and identify customer interaction events ability to follow company policies and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
3.03	Consults with external customers and responds to their concerns.	ability to analyze personal tasks and identify customer interaction events ability to follow company policies and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
3.04	Completes required documentation.	knowledge of company service procedures knowledge of company environmental procedures knowledge of company financial procedures knowledge of government regulations	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
3.05	Trains and coaches other employees.	knowledge of company service procedures knowledge of company safety procedures knowledge of company environmental procedures knowledge of company financial procedures knowledge of technical subject which is being taught	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
3.06	Writes technical reports.	ability to construct reports knowledge of technical terms knowledge of report writing knowledge of company policies and procedures	word processor

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
3.07	Reads technical reports.	ability to read knowledge of technical terms knowledge of schematics, etc.	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
3.08	Interprets technical terminology.	knowledge of technical terms ability to translate technical terms into non-jargon English		ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
3.09	Reads and follows instructions.	ability to follow flow charts ability to follow step-by-step written directions knowledge of technical terms knowledge of schematics		ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
3.10	Follows up with customers to ensure satisfaction.	ability to respond to customer enquiries ability to explain items on work order and customer bill **(NOT COMMON CORE)**		ND	yes	yes	no	ND	NV	yes	yes	yes	no	no	NV
3.11	Presents professional and courteous attitude to customers.	ability to respond to customer enquiries knowledge of company work policies knowledge of company dress code		ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Task 4 **Uses and maintains equipment and tools.**

Trend: New technologies demand new equipment and more attention to proper care, use and maintenance.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
4.01	Uses and maintains vehicles.	ability to operate cars, vans and light trucks ability to maintain log books ability to recognize need and respond to immediate and long-term service and maintenance requirements knowledge of maintenance requirements **(NOT COMMON CORE)**	Drivers' license

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
4.02	Uses and maintains technical documents.	ability to locate, read and apply information in blueprints, mechanical diagrams/drawings, logic diagrams, schematic diagrams, equipment specifications, operating procedures, maintenance procedures, installation procedures, testing procedures, safety procedures/standards, manufacturers' manuals/software	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
4.03	Uses and maintains hand tools.	ability to choose and use appropriate hand tools ability to apply written and oral communication	

ability to follow company policies and procedures

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

4.04 Uses and maintains soldering/de-soldering equipment.

ability to apply written and oral communication

ability to follow company policies and procedures

ability to safely handle soldering/ de-soldering chemicals

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

4.05 Uses and maintains component insertion and extraction tools.

ability to apply written and oral communication

ability to follow company policies and procedures

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

4.06 Uses and maintains cable preparation tools.

ability to apply written and oral communication

ability to follow company policies and procedures

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
4.07	Uses and maintains power tools.	ability to apply written and oral communication ability to follow company policies and procedures knowledge of electrical safety procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
4.08	Uses and maintains safety equipment.	ability to apply written and oral communication ability to follow company policies and procedures knowledge of safety equipment location	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
4.09	Cleans tools and equipment.	ability to apply written and oral communication ability to follow company policies and procedures ability to safely handle cleaning materials	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
4.10	Lubricates tools and equipment.	ability to apply written and oral communication ability to follow company policies and procedures ability to safely handle lubrication materials	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

4.11	Uses and maintains test equipment.	ability to apply written and oral communication ability to follow company policies and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

4.12	Uses and maintains anti static equipment.	ability to apply written and oral communication ability to follow company policies and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

4.13	Uses and maintains miscellaneous tools and equipment.	ability to apply written and oral communication ability to follow company policies and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Task 5 **Disposes of equipment, components or devices.**

Trend: Increased social pressure and government regulations mean this will be an increasingly important task.

	Sub-tasks	Enabling Objectives	Tools & Equipment
5.01	Identifies equipment, components, or devices that require disposal.	knowledge of company policies and procedures knowledge of manufacturers' policies and procedures knowledge of government regulations	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

5.02	Prepares equipment, components, or devices for disposal.	knowledge of company policies and procedures knowledge of manufacturers' policies and procedures knowledge of government regulations	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

5.03	Disposes of or arranges for disposal of equipment, components, or devices.	knowledge of company policies and procedures knowledge of manufacturers' policies and procedures knowledge of government regulations knowledge of disposal "experts" in community	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Task 6 Upgrades skills and knowledge.

Trend: New technologies and efficiency requirements dictate continual upgrade of education and skills.

	Sub-tasks	Enabling Objectives	Tools & Equipment
6.01	Upgrades skills and knowledge in theoretical areas.	ability to recognize need and access training ability to apply new knowledge and skills	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Enabling Objectives	Tools & Equipment
6.02	Upgrades skills and knowledge in technological innovations.	ability to recognize need and access training ability to apply new knowledge and skills	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Enabling Objectives	Tools & Equipment
6.03	Upgrades skills and knowledge in manufacturers' new products and upgrades.	ability to recognize need and access training ability to apply new knowledge and skills	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Enabling Objectives	Tools & Equipment
6.04	Upgrades skills and knowledge in relevant	ability to recognize need and access training	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	government laws, policies and procedures.	ability to apply new knowledge and skills	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
6.05	Upgrades skills and knowledge in relevant business areas.	ability to recognize need and access training ability to apply new knowledge and skills	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	no	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
6.06	Upgrades skills and knowledge in customer relations areas.	ability to recognize need and access training ability to apply new knowledge and skills	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

BLOCK C SERVICE AUDIO EQUIPMENT COMPONENTS AND DEVICES

Task 7 Services digital and analog audio recording and playback systems and associated components.

Trend: Digital audio is a trend which will require education for technicians so they will be efficient at servicing.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.04	Performs pre-service functional tests.	ability to attach to signal source ability to power up ability to check audio ability to check all special features ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	AF generators, variac, data generators, variable voltage/current supplies, db/dbm meters, wow and flutter, head phones, distortion analyzers, test/alignment, diskettes, tapes/CD/ records, test cables

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools	allen keys, hex drivers, electric screw/nut drivers, magnifiers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to follow manufacturers' disassembly procedures knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to recognize mechanical defects ability to isolate receiver fault to sub-assembly/circuit/component	manufacturer's software, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, isolation transformer, fan, heat gun, cleaning fluids, vacuum brushes, multimeters, continuity testers, oscilloscopes, data generators, white/pink noise generators, circuit testers, component testers, logic probes, frequency counters, distortion analyzers, db/dbm meters, variable

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	voltage/current supplies, degaussing equipment, test monitors, test speakers, microfiche reader, variac, AF generators, transistor checker, tracker, capacitor checker, Z-meter, wow and flutter, head phones, induction meter, hot air equipment, head checker, mats, ground straps, sprays, tension, torque, thickness gauges, test/alignment, diskettes, test strobes, micrometer, video disks, tapes/CD/ records, inspection mirrors, temperature probes, diagnostic routines, test cables, magnifiers, electrical tape, calculator

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to repair mechanical defects ability to select and replace component	manufacturer's software, solder irons, solder suckers, solder wicks, flux removers, head pullers, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, isolation transformer, anti-static equipment, fan, cleaning fluids, lubricants,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to order parts	swabs, oilers, mini torch, mats, ground straps, sprays, tension, torque, thickness, test/alignment, test strobes, micrometer, tapes/CD/records, inspection mirrors, magnifiers, electrical tape, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, de-soldering tools
	ability to repair faulty circuits or components	
	ability to clean circuits and components	
	ability to recognize warranty and non-warranty situations	
	ability to obtain exact replacement or suitable substitute parts	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of mechanics	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) servicing techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals	
	knowledge of cleaning procedures	
	knowledge of lubricating procedures	
	knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of mechanics knowledge of application of testing devices knowledge of electro static discharge techniques	data generators, variable voltage/current supplies, variac, AF generators, db/dbm meters, wow and flutter, head phones, distortion analyzers, tension gauges, torque gauges, test/alignment, diskettes, tapes/CD/ records, test cables, ear protection, fire extinguisher

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.09	Performs routine maintenance.	ability to clean controls ability to clean mechanisms ability to fine tune channels ability to verify operation of controls	manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, solder irons, solder suckers, solder wicks, flux

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to clean cosmetics of item ability to align and realign/adjust mechanisms ability to align electronics ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of mechanical operation knowledge of cleaning chemicals knowledge of cleaning procedures knowledge of lubricating procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	removers, head pullers, i.c. pullers, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, masks, ear protection, isolation transformer, fan, cleaning fluids, airbrushes, vacuum brushes, ultrasonic cleaner, lubricants, swabs, oilers, multimeters, continuity testers, oscilloscopes, data generators, circuit testers, frequency counters, distortion analyzers, db/dbm meters, variable voltage/current supplies, degaussing equipment, test monitors, test speakers, microfiche reader, variac, AF generators, wow and flutter, head phones, inspection mirrors, diagnostic routines, test cables, magnifiers, magnifying glass

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of electro static discharge techniques knowledge of component identification methods knowledge of troubleshooting techniques	manufacturer's software, testing procedures, safety procedures/ standards, data generators, variable voltage/current supplies, variac, AF generators, db/dbm meters, wow and flutter, head phones, distortion analyzers, tension gauges, torque gauges, test/alignment, diskettes, tapes/CD/ records, test cables, ear protection, fire extinguisher

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures	safety procedures/ standards, manufacturer's software, allen keys, hex drivers, electric screw/nut drivers, magnifiers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to perform final functional test knowledge of electro static discharge techniques knowledge of component identification methods knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

7.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units safely ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment	car, light to medium-sized truck, manufacturer's software, cutters, measuring devices, allen keys, hex drivers, hammers, alignment tools, burnishing tools, chisels, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, ear protection, fire extinguisher, cleaning fluids, cloths, lubricants, swabs, oilers, ladder

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

7.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts ability to document pertinent repair information knowledge of pertinent repair information knowledge of replaced parts	calculator

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 8 **Services radio receivers and transmitters.**

Trend: Technological advancements have caused miniaturization and thus the need for a higher skill level to service product.

	Sub-tasks	Enabling Objectives	Tools & Equipment
8.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
8.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
8.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
8.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check audio ability to check all special features ability to check tuner ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	light to medium-sized truck, manufacturer's software, hammers, multimeters, RF generators, RF radiation detectors, AF generators, dummy load, headphones, Canada Department of Communications (DOC)/United States Federal Communications Commission (FCC) rules and regulations, power meter

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

8.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques	allen keys, hex drivers, electric screwdrivers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

8.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to recognize mechanical defects ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results	alignment tools, solder irons, solder wicks, flux removers, RF generators, frequency counters, RF radiation detectors, mats, AF generators, dummy loads, ground straps, software, cable assemblies

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of mechanics knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

8.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to recognize mechanical defects	alignment tools, solder suckers, solder wicks, flux removers, cutters, strippers, crimpers, rubber gloves, isolation transformer, anti-static equipment, de-soldering tools

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to order parts	
	ability to repair faulty circuits or components	
	ability to clean circuits and components	
	ability to recognize warranty and non-warranty situations	
	ability to obtain exact replacement or suitable substitute parts	
	knowledge of mechanics	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) servicing techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals	
	knowledge of cleaning procedures	
	knowledge of lubricating procedures	
	knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
8.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to signal source ability to power up ability to check audio ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	multimeters, RF generators, RF power meters, db/dbm meters, ground straps, spectrum analyzer, vacuum tube tester

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
8.09	Performs routine maintenance.	ability to clean controls ability to clean mechanisms ability to fine tune channels ability to verify operation of controls ability to clean cosmetics of item ability to align and realign/adjust mechanisms ability to align electronics ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals knowledge of cleaning procedures knowledge of lubricating procedures knowledge of mechanics	hex drivers, cleaning fluids, multimeters, oscilloscopes, RF generators, frequency counters, RF power meters, RF radiation detectors, variable voltage/current supplies, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
8.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of electro static discharge techniques knowledge of component identification methods knowledge of troubleshooting techniques	safety procedures/ standards, manufacturers' manuals and software, hammers, multimeters, RF generators, RF radiation detectors, dummy loads

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
8.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of troubleshooting techniques	hex drivers

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
8.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off	light to medium-sized truck, or car

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

8.13	Completes documentation.	ability to bill customer	manufacturer's software
		ability to complete warranty claim	
		ability to calculate customer bill	
		ability to tag warranty parts	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 9 Services musical systems and instruments.

Trend: Integration with computers is causing an increase in the difficulty of repairs to musical systems and instruments.

	Sub-tasks	Enabling Objectives	Tools & Equipment
9.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems ability to determine name, address and phone numbers of customer	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
9.02	Processes work orders.	ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
9.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
9.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check audio ability to check all special features ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	isolation transformer, test speakers

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
9.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques	allen keys, hex drivers, vacuum brushes

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

9.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to recognize mechanical defects ability to read schematics ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel	manufacturer's software, cutters, allen keys, hex drivers, solder irons, solder suckers, solder wicks, flux removers, multimeters, distortion analyzers, test speakers, AF generators, vacuum tube tester

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to recognize warranty and non-warranty situations ability to recognize software and hardware faults knowledge of mechanics knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

9.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to recognize mechanical defects ability to order parts ability to repair faulty circuits or components	solder irons, solder suckers, solder wicks, flux removers, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to clean circuits and components	
		ability to recognize warranty and non-warranty situations	
		ability to obtain exact replacement or suitable substitute parts	
		knowledge of mechanics	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals	
		knowledge of cleaning procedures	
		knowledge of lubricating procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
9.08	Sets up and tests units.	ability to ensure unit complies with government regulations	test speakers
		ability to attach to power source	
		ability to attach to signal source	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to power up	
		ability to check audio	
		ability to check tuner	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions and troubleshoot	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

9.09	Performs routine maintenance.	ability to clean controls ability to clean mechanisms	testing procedures, allen keys, hex drivers, magnifying glass

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to align	
	ability to verify operation of controls	
	ability to clean cosmetics of item	
	ability to align and realign/adjust mechanisms	
	ability to align electronics	
	ability to verify all safety devices are in place and functioning properly	
	ability to perform routine mechanical and electronic adjustments/ alignments	
	ability to identify/document weaknesses or potential problems	
	knowledge of electro static discharge techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals	
	knowledge of cleaning procedures	
	knowledge of lubricating procedures	
	knowledge of mechanics	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
9.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of electro static discharge techniques knowledge of component identification methods knowledge of troubleshooting techniques	test speakers, AF generators

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

9.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures	allen keys, hex drivers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to perform final functional test	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

9.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of electro static discharge techniques knowledge of component identification methods	light to medium-sized truck or car

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

9.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Task 10 Services audio amplification systems.

Trend: More miniaturization will result in more items becoming disposable.

	Sub-tasks	Enabling Objectives	Tools & Equipment
10.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

10.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

10.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
10.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check audio ability to check all special features ability to check tuner ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	manufacturer's software, test speakers, AF generators

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

10.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques	hex drivers, electric screw/nut drivers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

10.06	Troubleshoots faults.	ability to prepare unit for troubleshooting	manufacturer's software, isolation transformer, multimeters, cutters, oscilloscopes, function generators, white/pink noise generators, circuit testers, component testers, db/dbm meters, distortion analyzers, variable voltage/current supplies, power factor meters, test speakers, variac, AF generators, transistor checker, tracker, capacitor checker, dummy loads, head phones, Z-meter
		ability to perform non-technical inspections	
		ability to recognize need to consult with another technician or manufacturer	
		ability to perform visual inspection	
		ability to recognize malfunctions	
		ability to recognize mechanical defects	
		ability to read schematics	
		ability to isolate receiver fault to sub-assembly/circuit/component	
		ability to select, connect and correctly interpret readings from required test equipment	
		ability to document results	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to communicate results to other personnel	
		ability to recognize warranty and non-warranty situations	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

10.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component	cutters, solder suckers, solder wicks, flux removers, cleaning fluids, magnifiers, de-soldering tools
		ability to verify proper installation	
		ability to verify integrity of board and neighboring components	
		ability to select and replace component	
		ability to recognize mechanical defects	
		ability to order parts	
		ability to repair faulty circuits or components	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to clean circuits and components	
		ability to recognize warranty and non-warranty situations	
		ability to obtain exact replacement or suitable substitute parts	
		knowledge of mechanics	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals	
		knowledge of cleaning procedures	
		knowledge of lubricating procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

10.08	Sets up and tests units.	ability to ensure unit complies with government regulations	isolation transformer, white/pink noise generators, alignment tools, test speakers, AF generators, power factor
		ability to attach to power source	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to attach to signal source ability to power up ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	meters, dummy loads, db/dbm meters, distortion analyzers

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
10.09 Performs routine maintenance.	ability to clean controls ability to clean mechanisms	isolation transformer, cleaning fluids, manufacturer's software,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to align	lubricants, swabs, oilers, power factor meters, test speakers, dummy loads, white/pink noise generators, db/dbm meters, distortion analyzers, magnifying glass
	ability to verify operation of controls	
	ability to clean cosmetics of item	
	ability to align and realign/adjust mechanisms	
	ability to align electronics	
	ability to verify all safety devices are in place and functioning properly	
	ability to perform routine mechanical and electronic adjustments/ alignments	
	ability to identify/document weaknesses or potential problems	
	knowledge of electro static discharge techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals	
	knowledge of cleaning procedures	
	knowledge of lubricating procedures	
	knowledge of mechanics	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
10.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of electro static discharge techniques knowledge of component identification methods knowledge of troubleshooting techniques	isolation transformer, white/pink noise generators, db/dbm meters, distortion analyzers, power factor meters, test speakers, AF generators, dummy loads

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

10.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test	manufacturer's software, electric screw/nut drivers, cleaning fluids

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

10.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of electro static discharge techniques	light to medium-sized truck, or car

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
10.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	computer, microfiche reader, calculator

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

BLOCK D SERVICE VIDEO EQUIPMENT COMPONENTS AND DEVICES

Task 11 Services televisions.

Trend: Larger screens result in increase of in-home service requests.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
11.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
11.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
11.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

11.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check video ability to check audio ability to check all special features ability to check tuner ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods	light to medium-sized truck, inspection mirrors, RF generators

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

11.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical)	hex drivers, electric screw/nut drivers, cleaning fluids, cloths, air brushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, mats, ground straps, sprays, solder irons, solder suckers, solder wicks, flux removers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

11.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspections ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques	multimeters, oscilloscopes, dot/bar generators, RF generators, variable voltage/current supplies, degaussing equipment, microfiche reader, high voltage probe, NTSC generators, transistor checker, capacitor checker, CRT checker, manufacturer's software, logic diagrams, equipment specifications, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, mats, ground straps, sprays, solder irons, solder suckers, solder wicks, flux removers, circuit testers, component testers, logic probes, logic analyzers, frequency counters, RF radiation detectors, X-ray and particle detectors, AC line testers/monitors, test speakers, variac, decade boxes, jumper wire, AF generators, tracker, Z-meter, inspection mirrors, reference charts, test charts,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	diagnostic routines, test cables, equipment dollies/carts, lifting/ leveling devices, magnifiers, electrical tape, freeze spray, maintenance procedures, testing procedures, safety procedures /standards, electric screw/nut drivers, heat gun, function generators, feeler gauges, hex drivers, alignment tools, vacuum tube tester, vector scope, hot air equipment, infrared tester

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

11.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations	microfiche reader, solder irons, solder suckers, solder wicks, flux removers, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to obtain exact replacement or suitable substitute parts knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

11.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check tuner ability to check all features ability to check cosmetics	multimeters, oscilloscopes, dot/bar generators, RF generators, variable voltage/current supplies, degaussing equipment, microfiche reader, high voltage probe, NTSC generators, transistor checker, capacitor checker, CRT checker, manufacturer's software, logic diagrams, equipment specifications, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, ultrasonic cleaner,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	lubricants, oilers, mats, ground straps, sprays, solder irons, solder suckers, solder wicks, flux removers, circuit testers, component testers, logic probes, logic analyzers, frequency counters, RF radiation detectors, X-ray and particle detectors, AC line testers/monitors, test speakers, variac, decade boxes, jumper wire, AF generators, tracker, Z-meter, inspection mirrors, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, freeze spray, maintenance procedures, testing procedures, safety procedures /standards, electric screw/nut drivers, heat gun, function generators, feeler gauges, hex drivers, alignment tools, vacuum tube tester, vector scope, hot air equipment, infrared tester

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
11.09	Performs routine maintenance.	ability to clean controls	cleaning fluids, cloths, lubricants, swabs, magnifying glass
		ability to align	
		ability to fine tune channels	
		ability to verify operation of controls	
		ability to clean cosmetics of item	
		ability to verify all safety devices are in place and functioning properly	
		ability to perform routine mechanical and electronic adjustments/ alignments	
		ability to identify/document weaknesses or potential problems	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
11.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical)	multimeters, oscilloscopes, dot/bar generators, RF generators, variable voltage/current supplies, degaussing equipment, microfiche reader, high voltage probe, NTSC generators, transistor checker, capacitor checker, CRT checker, safety procedures/ standards, manufacturer's software, frequency counters

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
11.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
11.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures	light to medium-sized truck, computer, equipment dollies/carts, lifting/leveling devices, installation procedures

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

11.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	calculator, computer, microfiche reader

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 12 Services video players/recorders.

Trend: Due to competetive pricing, pressure to perform cost-efficient repairs is increasing.

	Sub-tasks	Enabling Objectives	Tools & Equipment
12.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

12.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

12.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

12.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check video	manufacturer's software, test monitors, video disks, tapes/CD/records

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to check audio	
		ability to check all special features	
		ability to check tuner	
		ability to check cosmetics of set	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

12.05	Disassembles units.	ability to prepare unit and work area for disassembly	hex drivers, electric screw/nut drivers
		ability to select and use tools	
		ability to follow manufacturers' disassembly procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

12.06	Troubleshoots faults.	ability to prepare unit for troubleshooting	manufacturer's software, measuring devices, allen keys, feeler gauges, hex drivers, hammers,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate unit fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, head pullers, isolation transformer, anti-static equipment, multimeters, continuity testers, oscilloscopes, circuit testers, component testers, frequency counters, test monitors, tension gauges, torque gauges, thickness, test/alignment, diskettes, test strobes, video disks, tapes/CD/records, microfiche reader, NTSC generators, AF generators, transistor checker, capacitor checker, wow and flutter, spectrum analyzer, light box, vector scope, hot air equipment, mats, ground straps, inspection mirrors, reference charts, test charts, diagnostic routines, test cables, magnifiers, electrical tape, heat gun, i.c. pullers, head checker

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
12.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, allen keys, feeler gauges, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, electric screw/nut drivers, glue gun, heat gun, anti-static equipment, cleaning fluids, lubricants, swabs, oilers, de-soldering tools

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
12.08	Sets up and tests units.	ability to ensure unit complies with government regulations	cleaning fluids, distortion analyzers, test monitors, AF generators, wow and flutter, diskettes, video disks, tapes/CD/records
		ability to attach to power source	
		ability to attach to signal source	
		ability to power up	
		ability to check audio	
		ability to check video	
		ability to check tuner	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions and troubleshoot	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) techniques	
		knowledge of component identification methods	
		knowledge of replacement part characteristics (physical and electrical)	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
12.09	Performs routine maintenance.	ability to clean controls ability to align ability to fine tune channels ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	manufacturer's software, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, electric screw/nut drivers, isolation transformer, cleaning fluids, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, multimeters, oscilloscopes, circuit testers, component testers, distortion analyzers, test monitors, tension gauges, torque gauges, thickness gauges, test/alignment gauges, diskettes, test strobes, micrometer, video disks, tapes/CD/ records, wow and flutter, test charts, test cables, magnifying glass

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
12.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	manufacturer's software, cleaning fluids, cloths, dot/bar generators, video disks, tapes/CD/ records, test charts

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
12.11	Reassembles units and performs final check.	ability to assemble	manufacturer's software,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures	hex drivers, electric screw/nut drivers

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
12.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction	car or light to medium-sized truck, manufacturer's software, video disks, tapes/CD/records

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to obtain customer sign-off	
		ability to obtain payment	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

12.13	Completes documentation.	ability to bill customer	
		ability to complete warranty claim	
		ability to calculate customer bill	
		ability to tag warranty parts	
		knowledge of warranty rules and regulations	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 13 Services monitors.

Trend: No apparent change.

	Sub-tasks	Enabling Objectives	Tools & Equipment
13.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem	
		ability to probe for specific symptoms	
		ability to reflect back and verify customer's recollection of symptoms	
		ability to respond to unrealistic customer expectations	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
13.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
13.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
13.04	Performs pre-service functional tests.	ability to attach to signal source ability to power up ability to check video ability to check all special features	variable voltage/current supplies, RF generators, test speakers, head phones, test cables, operating procedures

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to check cosmetics of set	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

13.05	Disassembles units.	ability to prepare unit and work area for disassembly	electric screw/nut drivers, temperature probes
		ability to select and use tools	
		ability to follow manufacturers' disassembly procedures	
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
13.06 Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical)	manufacturer's software, allen keys, hex drivers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, i.c. pullers, cutters, strippers, heat gun, isolation transformer, anti-static equipment, fan, cleaning fluids, airbrushes, vacuum brushes, swabs, multimeters, continuity testers, oscilloscopes, function generators, dot/bar generators, circuit testers, component testers, logic probes, frequency counters, db/dbm meters, degaussing equipment, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, CRT checker, vacuum tube tester, dummy loads, hot air equipment, inspection mirrors, reference charts, diagnostic routines, test cables, equipment dollies/carts, magnifiers, electrical tape

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

13.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques	manufacturer's software, cutters, allen keys, hex drivers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, i.c. pullers, cutters, strippers, heat gun, isolation transformer, anti-static equipment, fan, cleaning fluids, airbrushes, vacuum brushes, swabs, multimeters, continuity testers, oscilloscopes, function generators, dot/bar generators, circuit testers, component testers, logic probes, frequency counters, db/dbm meters, degaussing equipment, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, CRT checker, vacuum tube tester, dummy loads, hot air equipment, inspection mirrors,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	reference charts, diagnostic routines, test cables, equipment dollies/carts, magnifiers, electrical tape, hammers, crimpers, glue gun, de-soldering tools

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

13.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques	RF generators, variable voltage/current supplies, test speakers, head phones, test cables, dot/bar generators

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

13.09	Performs routine maintenance.	ability to clean controls ability to align ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical)	multimeters, oscilloscopes, function generators, dot/bar generators, frequency counters, distortion analyzers, db/dbm meters, variable voltage/current supplies, degaussing equipment, microfiche reader, variac, jumper wire, NTSC generators, cleaning fluids, airbrushes, vacuum brushes, swabs, test cables, manufacturer's software, alignment tools, solder irons, solder suckers, solder wicks, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
13.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of electro static discharge techniques	RF generators, variable voltage/current supplies, test speakers, head phones, test cables, operating procedures

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
13.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools	electric screw/nut drivers, temperature probes, operating procedures

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of cleaning chemicals and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
13.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment	car or light to medium-sized truck, manufacturer's software, electric screw/nut drivers, cleaning fluids

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
13.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	manufacturer's software, microfiche reader

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 14 Services video entertainment equipment.

Trend: Expanding sales and lower prices will require more service and additional training.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
14.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

14.02	Processes work orders.	ability to determine name, address and phone numbers of customer	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
14.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
14.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check video ability to check audio ability to check all special features ability to check cosmetics of set ability to recognize malfunctions	variac, data generators, test monitors, dot/bar generators, RF generators, test speakers, NTSC generators, AF generators, head phones, computer, inspection mirrors, diagnostic routines, equipment dollies/carts, lifting/leveling devices, magnifiers, isolation transformer, manufacturer's software,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to document results ability to communicate results to other technicians knowledge of electro static discharge techniques knowledge of troubleshooting techniques	anti-static equipment, fire extinguisher, fan

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

14.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of electro static discharge techniques	cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, anti-static equipment

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

14.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection	manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, chisels, cutters, strippers,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to recognize malfunctions	crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, multimeters, continuity testers, oscilloscopes, function generators, dot/bar generators, RF generators, circuit testers, component testers, logic probes, logic analyzers, frequency counters, RAM/ROM testers, X-ray and particle detectors, variable voltage/current supplies, AC line testers/monitors, degaussing equipment, test monitors, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, computer, hot air equipment, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts,
	ability to read schematics	
	ability to isolate receiver fault to sub-assembly/circuit/component	
	ability to select, connect and correctly interpret readings from required test equipment	
	ability to document results	
	ability to communicate results to other personnel	
	ability to recognize warranty and non-warranty situations	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
			lifting/leveling devices, magnifiers, electrical tape, mats, ground straps, sprays, video disks, tapes/CD/records, CRT checker

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
14.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques	manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, chisels, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, multimeters, continuity testers, oscilloscopes, function generators, dot/bar generators, RF generators, circuit testers, component testers, logic probes, logic analyzers, frequency counters, RAM/ROM testers,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	X-ray and particle detectors, variable voltage/current supplies, AC line testers/ monitors, degaussing equipment, test monitors, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, computer, hot air equipment, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, ground straps, sprays, video disks, tapes/CD/records, de-soldering tools, CRT checker

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
14.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up	variac, data generators, test monitors, dot/bar generators, RF generators, test speakers, NTSC generators, AF generators, head phones, computer, inspection

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to check audio ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of troubleshooting techniques	mirrors, diagnostic routines, equipment dollies/carts, lifting/leveling devices, magnifiers, isolation transformer, manufacturer's software, anti-static equipment, fire extinguisher, fan

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
14.09 Performs routine maintenance.	ability to clean controls ability to align ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments	manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, chisels, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, isolation

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to identify/document weaknesses or potential problems *knowledge of precision mechanisms* and fine mechanical adjustments knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	transformer, anti-static equipment, fire extinguisher, fan, *cleaning fluids, cloths*, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, multimeters, continuity testers, oscilloscopes, function generators, dot/bar generators, RF generators, circuit testers, component testers, logic probes, logic analyzers, frequency counters, RAM/ROM testers, X-ray and particle detectors, variable voltage/current supplies, AC line testers/monitors, degaussing equipment, test monitors, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, computer, hot air equipment, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, ground straps, sprays, video

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
			disks, tapes/CD/records, magnifying glass, CRT *checker*

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

14.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures	variac, data generators, test monitors, dot/bar generators, RF generators, test speakers, NTSC generators, AF generators, head phones, computer, inspection mirrors, diagnostic routines, equipment dollies/carts, lifting/leveling devices, magnifiers, isolation transformer, manufacturer's software, anti-static equipment, fire extinguisher, fan

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
14.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures	cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, anti-static equipment

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

14.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information	car, light to medium-sized truck, manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, alignment tools, burnishing tools, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, anti-static equipment, degaussing equipment, sprays, diskettes, video disks, tapes/CD/records, equipment dollies/carts, lifting/leveling devices

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

14.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	calculator

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 15 Services satellite receiver systems.

Trend: Because of the introduction of direct satellite systems (DSS) at a low start up cost, the use of these systems will become more widely spread and consequently some technicians feel they will generate more opportunities for service.

	Sub-tasks	Enabling Objectives	Tools & Equipment
15.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

15.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

15.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

15.04	Performs pre-service functional tests.	ability to apply power	RF generators, RF

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to attach to signal source	power meters, satellite feed
		ability to power up	
		ability to check video	
		ability to check audio	
		ability to check all special features	
		ability to check tuner	
		ability to check cosmetics of set	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
15.05	Disassembles units.	ability to prepare unit and work area for disassembly	hex drivers, solder irons solder wicks
		ability to select and use tools	
		ability to follow manufacturers' disassembly procedures	
		knowledge of electro static discharge techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
15.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical)	multimeters, oscilloscopes, RF generators transistor checker, diagnostic software, monitor, satellite feed

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
15.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques	solder irons, solder wicks, flux removers, hot air equipment, ground straps, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
15.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices	RF generators, diagnostic software, monitor, satellite feed, compass, inclinometer

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

15.09	Performs routine maintenance.	ability to clean controls ability to fine tune channels ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical)	lubricants, cleaning fluids, swabs, multimeters, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

15.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures	RF generators, safety procedures/standards

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

15.11	Reassembles units and performs final check.	ability to assemble	hex drivers, solder irons

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
15.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment	light to medium-sized truck, cutters, hex drivers, hammers, alignment tools, compass, inclinometer

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to reauthorize customers' programming package	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

15.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	calculator

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 16 Services video cameras.

Trend: Shrinking size, greater complexity, more specialized test equipment, and lower prices mean fewer shop repairs and more units shipped to factory for service.

	Sub-tasks	Enabling Objectives	Tools & Equipment
16.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
16.02	Processes work orders.	ability to determine name, address and phone numbers of customer	
		ability to determine name and model number of unit	
		ability to write up symptoms	
		knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
16.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries	
		ability to obtain customer signature on work order	
		knowledge of company work volume	
		knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
16.04	Performs pre-service functional tests.	ability to apply power	tapes/CD/records
		ability to attach to signal source	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to power up	
		ability to check video	
		ability to check audio	
		ability to check all special features	
		ability to check cosmetics of set	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

16.05	Disassembles units.	ability to prepare unit and work area for disassembly	manufacturer's software, allen keys, solder irons, solder wicks
		ability to select and use tools	
		ability to follow manufacturers' disassembly procedures	
		knowledge of electro static discharge techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

16.06	Troubleshoots faults.	ability to prepare unit for troubleshooting	manufacturer's software, measuring devices, allen keys, feeler gauges, hex

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of troubleshooting techniques	drivers, hammers, burnishing tools, alignment tools, solder irons, solder wicks, flux removers, head pullers, i.c. pullers, anti-static equipment, multimeters, oscilloscopes, component testers, frequency counters, test monitors, mats, tension gauges, torque gauges, thickness gauges, test/alignment gauges, micrometer, tapes/CD/records, NTSC generators, transistor checker, light box, vector scope, computer, hot air equipment, head checker, ND tester, infrared tester, inspection mirrors, reference charts, test charts, diagnostic routines, test cables

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
16.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	solder irons, solder wicks, flux removers, head pullers, i.c. pullers, anti-static equipment, mats, hot air gun, de-soldering tools

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
16.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of troubleshooting techniques	test monitors, test/ alignment, tapes/CD/ records, light meters, light box, vector scope, test charts, test cables

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
16.09	Performs routine maintenance.	ability to clean controls ability to align	cleaning fluids, airbrushes, swabs, lubricants, mats, tension

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	gauges, torque gauges, test/alignment gauges, inspection mirrors, magnifying glass

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

16.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check all features ability to check cosmetics	test monitors, test/alignment gauges, tapes/ CD/records, light meters, light box, vector scope, test charts, test cables

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to recognize malfunctions ability to document results knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

16.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test	manufacturer's software, allen keys, solder irons, solder wicks, flux removers

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

16.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to deliver units	
	ability to install and set up units	
	ability to demonstrate unit to customer	
	ability to advise customer of company policies and warranty policies	
	ability to communicate pertinent repair/defect information	
	ability to respond to customer concerns and customer satisfaction	
	ability to obtain customer sign-off	
	ability to obtain payment	
	knowledge of electro static discharge techniques	
	knowledge of cleaning chemicals and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
16.13 Completes documentation.	ability to bill customer	vibration testers, calculator
	ability to complete warranty claim	
	ability to calculate customer bill	
	ability to tag warranty parts	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 17 Services cable converters and decoders.

Trend: Expanding use and complexity of cable converters and decoders require additional training for servicing these units.

	Sub-tasks	Enabling Objectives	Tools & Equipment
17.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	no	NV

	Sub-tasks	Enabling Objectives	Tools & Equipment
17.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
17.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
17.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check video ability to check audio ability to check all special features ability to check tuner ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques	manufacturer's software, test monitors, reference charts, test charts, test cables

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
17.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques	hex drivers, solder irons, solder suckers, electric screw/nut drivers

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
17.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics	manufacturer's software, cutters, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, isolation transformer, multimeters, oscilloscopes, RF generators, component testers, test monitors, transistor checker, capacitor checker, reference charts, test charts, test cables

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to isolate receiver fault to sub-assembly/circuit/component	
		ability to select, connect and correctly interpret readings from required test equipment	
		ability to document results	
		ability to communicate results to other personnel	
		ability to recognize warranty and non-warranty situations	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) techniques	
		knowledge of component identification methods	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

17.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components	cutters, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, electric screw/nut drivers, glue

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	gun, heat gun, isolation transformer, cleaning fluids, cloths, airbrushes, de-soldering tools

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

17.08	Sets up and tests units.	ability to ensure unit complies with government regulations	manufacturer's

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of troubleshooting techniques	software, cleaning fluids, cloths

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

17.09	Performs routine maintenance.	ability to clean controls ability to align	cleaning fluids, airbrushes, vacuum brushes, test monitors,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to fine tune channels	reference charts, test charts, magnifying glass
	ability to verify operation of controls	
	ability to clean cosmetics of item	
	ability to verify all safety devices are in place and functioning properly	
	ability to perform routine mechanical and electronic adjustments/ alignments	
	ability to identify/document weaknesses or potential problems	
	knowledge of precision mechanisms and fine mechanical adjustments	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
17.10 Performs post-service functional tests.	ability to attach to power source	manufacturer's software,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to attach to signal source	test monitors, reference charts, test cables
		ability to power up	
		ability to check audio	
		ability to check video	
		ability to check tuner	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

17.11	Reassembles units and performs final check.	ability to assemble	manufacturer's software, hex drivers, electric screw/nut drivers
		ability to prepare unit and work area for assembly	
		ability to select and use tools	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

17.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off	car or light to medium-sized truck, manufacturer's software, hex driver

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to obtain payment	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
17.13	Completes documentation.	**ability to bill customer**	
		ability to complete warranty claim	
		ability to calculate customer bill	
		ability to tag warranty parts	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

Task 18 Services video display devices. (Large projection television screens) (NOT COMMON CORE)

Trend: Expanding sales and lower price per unit will result in more service.

	Sub-tasks	Enabling Objectives	Tools & Equipment
18.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem	
		ability to probe for specific symptoms	
		ability to reflect back and verify customer's recollection of symptoms	
		ability to respond to unrealistic customer expectations	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of unit operation and potential problems	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

18.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

18.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
18.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check video ability to check all special features ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of troubleshooting techniques **(NOT COMMON CORE)**	variac, isolation transformer, data generators, function generators, dot/bar generators, RF generators, test monitors, test speakers, NTSC generators, AF generators, head phones, computer, inspection mirrors, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, manufacturer's software, anti-static equipment, fire extinguisher, fan

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
18.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of electro static discharge techniques	cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, anti-static equipment

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
18.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of application of testing devices knowledge of electro static discharge techniques	manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, chisels, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, rubber gloves, masks, ear protection, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, multimeters, continuity testers, oscilloscopes, data generators, function generators, dot/bar generators, RF generators, circuit testers, component testers, logic probes, logic analyzers, frequency counters, RAM/ROM testers,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	X-ray and particle detectors, variable voltage/current supplies, AC line testers/ monitors, degaussing equipment, test monitors, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, vacuum tube tester, computer, hot air equipment, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, ground straps, sprays, video disks, tapes/CD/records

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

18.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components	manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	solder wicks, flux removers, head pullers, i.c. pullers, chisels, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, ear protection, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, multimeters, continuity testers, oscilloscopes, data generators, function generators, dot/bar generators, RF generators, circuit testers, component testers, logic probes, logic analyzers, frequency counters, RAM/ROM testers, X-ray and particle detectors, variable voltage/current supplies, AC line testers/ monitors, degaussing equipment, test monitors, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, vacuum tube tester, computer, hot air equipment, mini torch,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
			inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, ground straps, sprays, video disks, tapes/CD/records, de-soldering tools

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

18.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices	variac, isolation transformer, data generators, function generators, dot/bar generators, RF generators, test monitors, test speakers, NTSC generators, AF generators, head phones, computer, inspection mirrors, test cables, equipment dollies/carts, lifting/leveling devices, manufacturer's software, anti-static equipment, fire extinguisher, fan

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of troubleshooting techniques	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

18.09	Performs routine maintenance.	ability to clean controls ability to align ability to fine tune channels ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods	manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, chisels, cutters, strippers, crimpers, electric drills, electric screw/nut, magnifying glass drivers, glue gun, heat gun, ear protection, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, multimeters, continuity testers, oscilloscopes, data generators, function generators, dot/bar

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	generators, RF generators, circuit testers, component testers, logic probes, logic analyzers, frequency counters, RAM/ROM testers, X-ray and particle detectors, variable voltage/current supplies, AC line testers/monitors, degaussing equipment, test monitors, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, vacuum tube tester, computer, hot air equipment, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, ground straps, sprays, video disks, tapes/CD/records

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
18.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	variac, isolation transformer, data generators, function generators, dot/bar generators, RF generators, test monitors, test speakers, NTSC generators, AF generators, head phones, computer, inspection mirrors, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, manufacturer's software, anti-static equipment, fire extinguisher, fan

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

18.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools	cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, anti-static equipment

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

18.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction	car, light to medium-sized truck, equipment manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, anti-static equipment, degaussing equipment, sprays, diskettes, video disks, tapes/CD/records, equipment dollies/carts, lifting/leveling devices

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to obtain customer sign-off	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

18.13	Completes documentation.	ability to bill customer	calculator
		ability to complete warranty claim	
		ability to calculate customer bill	
		ability to tag warranty parts	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

BLOCK E SERVICE TELEPHONE ANSWERING EQUIPMENT COMPONENTS AND DEVICES

Task 19 Services cellular phones. (NOT COMMON CORE)

Trend: Because of the increasing popularity of voice synthesizers, servicing opportunities are expanding.

	Sub-tasks	Enabling Objectives	Tools & Equipment
19.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem	
		ability to probe for specific symptoms	

ability to reflect back and verify customer's recollection of symptoms

ability to respond to unrealistic customer expectations

knowledge of unit operation and potential problems

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

19.02 Processes work orders.

ability to determine name, address and phone numbers of customer

ability to determine name and model number of unit

ability to write up symptoms

knowledge of company documentation procedures

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

19.03 Informs customer of repair time frames and cost responsibilities.

ability to respond to customer enquiries

ability to obtain customer signature on work order

knowledge of company work volume

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of company credit policy	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
19.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check audio ability to check all special features ability to check transmitter and receiver ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods	spectrum analyzer, cell site simulator, wattmeter

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

19.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of troubleshooting techniques	manufacturer's software

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
19.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical)	spectrum analyzer, manufacturer's software, logic diagrams, multi meter, variable voltage/current supplies, RF power meters, cell site simulator

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

19.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques	spectrum analyzer, manufacturer's software, logic diagrams, solder irons, solder wicks, cutters, microfiche reader, i.c. pullers, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
19.08	Sets up and tests units.	ability to ensure unit complies with government regulations	spectrum analyzer, manufacturer's software
		ability to attach to power source	
		ability to attach to signal source	
		ability to power up	
		ability to check audio	
		ability to check transmitter and receiver	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions and troubleshoot	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
19.09	Performs routine maintenance.	ability to clean controls ability to align ability to check carrier frequency ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of application of testing devices	alignment tools, cleaning fluids, swabs, airbrushes, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

19.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check transmitter and receiver ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians	spectrum analyzer, logic probe, cell site simulator, wattmeter

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

19.11	Reassembles units and performs final check.	ability to assemble	manufacturer's software
		ability to prepare unit and work area for assembly	
		ability to select and use tools	
		ability to follow manufacturers' assembly procedures	
		ability to perform final functional test	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

19.12 Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to obtain payment	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

19.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	computer, calculator

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

Task 20 **Services cordless phones.**

Trend: Because of the portability of the units and comparatively low price, more and more of these units fall into an exchange program, limiting the opportunities for service.

	Sub-tasks	Enabling Objectives	Tools & Equipment
20.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

20.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

20.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

20.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source	analyzer

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to power up	
	ability to check audio	
	ability to check all special features	
	ability to check transmitter and receiver	
	ability to check cosmetics of set	
	ability to recognize malfunctions	
	ability to document results	
	ability to communicate results to other technicians	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
20.05	Disassembles units.	ability to prepare unit and work area for disassembly	mats
		ability to select and use tools	
		ability to follow manufacturers' disassembly procedures	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

20.06	Troubleshoots faults.	ability to prepare unit for troubleshooting	telephone analyzer, manufacturer's software, solder irons, solder wicks, i.c. pullers, glue gun, frequency counters
		ability to perform non-technical inspections	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to recognize need to consult with another technician or manufacturer	
	ability to perform visual inspection	
	ability to recognize malfunctions	
	ability to read schematics	
	ability to isolate receiver fault to sub-assembly/circuit/component	
	ability to select, connect and correctly interpret readings from required test equipment	
	ability to document results	
	ability to communicate results to other personnel	
	ability to recognize warranty and non-warranty situations	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
20.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	frequency counters, telephone analyzer, data generators, function generators, manufacturers' manuals/software, solder irons, solder wicks, i.c. pullers, glue gun, de-soldering tools

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
20.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check transmitter and receiver ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods	frequency counters, equipment specifications, telephone analyzer, data generators, function generators, manufacturer's software, solder irons, solder wicks, i.c. pullers, glue gun

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

20.09	Performs routine maintenance.	ability to clean controls ability to align ability to check carrier frequency	cleaning fluids, swabs, frequency counters, telephone analyzer, data generators, function generators,

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	manufacturers' manuals/software, solder irons, solder wicks, i.c. pullers, glue gun, magnifying glass

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

20.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to power up	
		ability to check audio	
		ability to check video	
		ability to check transmitter and receiver	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

20.11	Reassembles units and performs final check.	ability to assemble	frequency counters, equipment specifications, telephone analyzer, data generators, function generators, manufacturer's software, solder irons, solder wicks, i.c. pullers, glue gun
		ability to prepare unit and work area for assembly	
		ability to select and use tools	
		ability to follow manufacturers' assembly procedures	
		ability to perform final functional test	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

20.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units	
		ability to store units	
		ability to drive to job location when applicable	
		ability to deliver units	
		ability to install and set up units	
		ability to demonstrate unit to customer	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

20.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 21 Services fax machines.

Trend: Because of the integration of equipment and increased home use, the demand for service will increase.

	Sub-tasks	Enabling Objectives	Tools & Equipment
21.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to reflect back and verify customer's recollection of symptoms	
		ability to respond to unrealistic customer expectations	
		knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
21.02	Processes work orders.	ability to determine name, address and phone numbers of customer	
		ability to determine name and model number of unit	
		ability to write up symptoms	
		knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
21.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries	
		ability to obtain customer signature on work order	
		knowledge of company work volume	
		knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
21.04	Performs pre-service functional tests.	ability to apply power	telephone analyzer, facsimile machine
		ability to attach to signal source	
		ability to power up	
		ability to check mechanical operation	
		ability to check dialer operation	
		ability to check audio	
		ability to check all special features	
		ability to check cosmetics of set	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
21.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	hex drivers, screwdrivers, soldering and de-soldering equipment, freeze spray

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
21.06	Troubleshoots faults.	ability to prepare unit for troubleshooting	solder irons, solder wicks, multimeters, telephone analyzer, oscilloscopes, screwdrivers, freeze spray, test documents
		ability to perform non-technical inspections	
		ability to recognize need to consult with another technician or manufacturer	
		ability to perform visual inspection	
		ability to recognize malfunctions	
		ability to read schematics	
		ability to isolate receiver fault to sub-assembly/circuit/component	
		ability to select, connect and correctly interpret readings from required test equipment	
		ability to document results	
		ability to communicate results to other personnel	
		ability to recognize warranty and non-warranty situations	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) techniques	
		knowledge of component identification methods	
		knowledge of replacement part characteristics (physical and electrical)	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

21.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques	solder irons, solder wicks, multimeters, telephone analyzer, oscilloscopes, i.c. pullers, microfiche reader, schematic tools, testing procedures, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

21.08	Sets up and tests units.	ability to ensure unit complies with government regulations	solder irons, solder wicks, multimeters, telephone analyzer, oscilloscopes
		ability to attach to power source	
		ability to attach to signal source	
		ability to power up	
		ability to check audio	
		ability to check mechanical operation	
		ability to check dialer operation	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions and troubleshoot	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
21.09 Performs routine maintenance.	ability to clean controls ability to align ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of application of testing devices	cleaning fluids, cloths, swabs, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
21.10	Performs post-service functional tests.	ability to attach to power source	test documents
		ability to attach to signal source	
		ability to power up	
		ability to check audio	
		ability to check mechanical operation	
		ability to check transmitter and receiver	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
21.11	Reassembles units and performs final check.	ability to assemble	hex drivers
		ability to prepare unit and work area for assembly	
		ability to select and use tools	
		ability to follow manufacturers' assembly procedures	
		ability to perform final functional test	
		knowledge of electro static discharge techniques	
		knowledge of cleaning chemicals and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
21.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units	
		ability to store units	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to drive to job location when applicable	
	ability to deliver units	
	ability to install and set up units	
	ability to demonstrate unit to customer	
	ability to advise customer of company policies and warranty policies	
	ability to communicate pertinent repair/defect information	
	ability to respond to customer concerns and customer satisfaction	
	ability to obtain customer sign-off	
	ability to obtain payment	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
21.13 Completes documentation.	ability to bill customer	calculator, computer
	ability to complete warranty claim	
	ability to calculate customer bill	
	ability to tag warranty parts	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 22 Services answering machines.

Trend: Due to competetive pricing, pressure to perform cost-efficient repairs is increasing.

	Sub-tasks	Enabling Objectives	Tools & Equipment
22.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

22.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

22.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

22.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check mechanical operation ability to check audio ability to check all special features ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods	tapes, telephone analyzer

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

22.05	Disassembles units.	ability to prepare unit and work area for disassembly	
		ability to select and use tools	
		ability to follow manufacturers' disassembly procedures	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) techniques	
		knowledge of component identification methods	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

22.06	Troubleshoots faults.	ability to prepare unit for troubleshooting	alignment tools, multimeters, oscilloscopes, tension

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to perform non-technical inspections	gauges, torque gauges, test/alignment, telephone analyzer
	ability to recognize need to consult with another technician or manufacturer	
	ability to perform visual inspection	
	ability to recognize malfunctions	
	ability to read schematics	
	ability to isolate receiver fault to sub-assembly/circuit/component	
	ability to select, connect and correctly interpret readings from required test equipment	
	ability to document results	
	ability to communicate results to other personnel	
	ability to recognize warranty and non-warranty situations	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of replacement part characteristics (physical and electrical)	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
22.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques	microfiche reader, solder irons, solder suckers, solder wicks, telephone analyzer, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
22.08	Sets up and tests units.	ability to ensure unit complies with government regulations	alignment tools, tapes/CDs/records
		ability to attach to power source	
		ability to attach to signal source	
		ability to power up	
		ability to check audio	
		ability to check mechanical operation	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions and troubleshoot	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

22.09	Performs routine maintenance.	ability to clean controls ability to align ability to check mechanical operation ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of application of testing devices	cleaning fluids, cloths, lubricants, swabs, oilers, tapes/CD/records, telephone analyzer, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

22.10	Performs post-service functional tests.	ability to attach to power source	testing procedures, alignment tools, multimeters, oscilloscopes, tension gauges, torque gauges, telephone analyzer
		ability to attach to signal source	
		ability to power up	
		ability to check audio	
		ability to check mechanical operation	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

22.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of application of testing devices knowledge of electrostatic discharge techniques knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
22.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

22.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	computer, calculator, microfiche reader

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 23 Services corded phones.

Trend: Because these units are becoming cheaper and cheaper, they are becoming disposable as cost of repair and replacement is too high.

	Sub-tasks	Enabling Objectives	Tools & Equipment
23.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Enabling Objectives	Tools & Equipment
23.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
23.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

23.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check audio ability to check all special features ability to check transmitter and receiver ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques	telephone analyzer

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

23.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods	manufacturer's software, solder irons, solder suckers, solder wicks, i.c. pullers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
23.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations	manufacturer's software, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, i.c. puller, cutters, strippers, glue gun, heat gun, anti-static equipment, cleaning fluids, airbrushes, vacuum brushes, swabs, multimeters, continuity testers, oscilloscopes, circuit testers, logic probes, frequency counters, variable voltage/current supplies, microfiche reader, jumper wire, transistor checker, tracker, capacitor checker, induction meter, telephone analyzer, inspection mirrors, diagnostic routines, test cables, magnifiers, calculator

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

23.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations	manufacturer's software, safety procedures/ standards, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, i.c. puller, cutters, strippers, glue gun, heat gun, anti-static equipment, cleaning fluids, airbrushes, vacuum brushes, swabs, multimeters, continuity testers, oscilloscopes, circuit testers, logic probes, frequency counters, variable voltage/current supplies, microfiche reader, jumper wire, transistor checker, tracker,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	capacitor checker, induction meter, telephone analyzer, inspection mirrors, diagnostic routines, test cables, magnifiers, calculator, de-soldering tools

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

23.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check mechanical operation ability to check all features ability to check cosmetics	manufacturer's software, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, i.c. puller, cutters, strippers, glue gun, heat gun, anti-static equipment, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, multimeters, continuity testers, oscilloscopes, circuit testers, logic probes, frequency counters, variable

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	voltage/current supplies, microfiche reader, jumper wire, transistor checker, tracker, capacitor checker, induction meter, telephone analyzer, inspection mirrors, diagnostic routines, test cables, magnifiers, calculator

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

23.09	Performs routine maintenance.	ability to clean controls ability to check audio ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly	manufacturer's software, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, i.c. puller, cleaning fluids, airbrushes, vacuum brushes, swabs, telephone analyzer, inspection mirrors, test cables, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to perform routine mechanical and electronic adjustments/ alignments	
		ability to identify/document weaknesses or potential problems	
		knowledge of precision mechanisms and fine mechanical adjustments	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

23.10	Performs post-service functional tests.	ability to attach to power source	variable voltage/current supplies, telephone analyzer
		ability to attach to signal source	
		ability to power up	
		ability to check audio	
		ability to check mechanical operation	
		ability to check all features	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

23.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools	manufacturer's software, solder irons, solder suckers, solder wicks

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to follow manufacturers' assembly procedures ability to perform final functional test	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
23.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment	cutters, strippers, crimpers, multimeters

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
23.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	manufacturer's software, microfiche reader

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

BLOCK F SERVICE COMPUTER EQUIPMENT COMPONENTS AND DEVICES

Task 24 Services computer monitors.

Trend: These items show increasing complexity, and there is a trend toward lower radiation limits. Units will become cheaper and parts harder to find.

	Sub-tasks	Enabling Objectives	Tools & Equipment
24.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
24.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
24.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
24.04	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools	mechanical diagrams/ drawings, safety procedures/standards, hex drivers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to follow manufacturers' disassembly procedures knowledge of product and special features and specifications knowledge of electro static discharge techniques knowledge of component identification methods	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

24.05	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel	schematic diagrams, equipment specifications, testing procedures, solder irons, solder suckers, solder wicks, flux removers, vacuum brushes, multimeters, oscilloscopes, frequency counters, RF radiation detectors, degaussing equipment, high voltage probe, variac, transistor checker, capacitor checker, induction meter, CRT checker, computer, freeze spray, mats, ground straps, software

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to recognize warranty and non-warranty situations	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	
		knowledge of basic computer software configuration	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

24.06	Replaces or repairs faulty circuits and components.	ability to remove faulty component	cutters, measuring devices, isolation transformer, anti-static equipment, anti-static sprays, schematic diagrams, equipment specifications, testing procedures, solder irons, solder suckers, solder wicks, flux removers, vacuum brushes, multimeters,
		ability to verify proper installation	
		ability to verify integrity of board and neighboring components	
		ability to select and replace component	
		ability to order parts	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	oscilloscopes, frequency counters, RF radiation detectors, degaussing equipment, high voltage probe, variac, transistor checker, capacitor checker, induction meter, CRT checker, computer, freeze spray, mats, ground straps, de-soldering tools

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

24.07	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source	computer, schematic diagrams, equipment specifications, testing procedures, solder irons,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to attach to signal source ability to power up ability to check audio ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of troubleshooting techniques	solder suckers, solder wicks, flux removers, vacuum brushes, multimeters, oscilloscopes, frequency counters, RF radiation detectors, degaussing equipment, high voltage probe, variac, transistor checker, capacitor checker, induction meter, CRT checker, freeze spray, mats, ground straps

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

24.08	Performs routine maintenance.	ability to clean controls ability to align ability to verify operation of controls ability to clean cosmetics of item	maintenance procedures, allen keys, schematic diagrams, equipment specifications, testing procedures, solder irons, solder suckers, solder wicks, flux removers,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	vacuum brushes, multimeters, oscilloscopes, frequency counters, RF radiation detectors, degaussing equipment, high voltage probe, variac, transistor checker, capacitor checker, induction meter, CRT checker, computer, freeze spray, mats, ground straps, magnifying glass

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

24.09	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up	safety procedures/ standards, computer

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to check audio	
		ability to check video	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
24.10	Reassembles units and performs final check.	ability to assemble	allen keys, hex drivers
		ability to prepare unit and work area for assembly	
		ability to select and use tools	
		ability to follow manufacturers' assembly procedures	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to perform final functional test	
		knowledge of electro static discharge techniques	
		knowledge of cleaning chemicals and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

24.11	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of product and special features and specifications	safety procedures/ standards, light to medium-sized truck

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

24.12	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	calculator

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 25 Services computer hardware.

Trend: Because of unit obsolescence and a lack of available replacement parts, a technician's ability to repair declines, resulting in an increase in customer complaints.

	Sub-tasks	Enabling Objectives	Tools & Equipment
25.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of unit operation and potential problems **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
25.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
25.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
25.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source	multimeters, diskettes

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to power up	
		ability to check video	
		ability to check audio	
		ability to check all special features	
		ability to check cosmetics of set	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		ability to maintain integrity of existing data	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of common operating systems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

25.05	Disassembles units.	ability to prepare unit and work area for disassembly	hex drivers, mats, soldering irons
		ability to select and use tools	
		ability to follow manufacturers' disassembly procedures	
		knowledge of local, provincial and federal government regulations	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
25.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component	diagnostic routines, test cables, oscilloscopes, multimeters, RAM/ ROM testers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

25.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component	solder irons, solder wicks, hot air equipment, i.c. pullers, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to order parts	
		ability to repair faulty circuits or components	
		ability to clean circuits and components	
		ability to recognize warranty and non-warranty situations	
		ability to obtain exact replacement or suitable substitute parts	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

25.08	Sets up and tests units.	ability to ensure unit complies with government regulations	data generators, RAM/ROM testers

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to attach to power source	
	ability to attach to signal source	
	ability to power up	
	ability to check audio	
	ability to check video	
	ability to check all features	
	ability to check cosmetics	
	ability to recognize malfunctions and troubleshoot	
	ability to document results	
	ability to communicate results to other technicians	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) servicing techniques	
	knowledge of component identification methods	
	knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
25.09	Performs routine maintenance.	ability to clean controls	cleaning fluids, airbrushes, lubricants, swabs, oilers, magnifying glass
		ability to align	
		ability to verify operation of controls	
		ability to clean cosmetics of item	
		ability to verify all safety devices are in place and functioning properly	
		ability to perform routine mechanical and electronic adjustments/ alignments	
		ability to identify/document weaknesses or potential problems	
		knowledge of precision mechanisms and fine mechanical adjustments	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

25.10	Performs post-service functional tests.	ability to attach to power source	safety procedures/ standards, diskettes
		ability to attach to signal source	
		ability to power up	
		ability to check audio	
		ability to check video	
		ability to check all features	
		ability to check cosmetics	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

25.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test	hex drivers, solder irons

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
25.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units	safety procedures/ standards, hex drivers
		ability to store units	
		ability to drive to job location when applicable	
		ability to deliver units	
		ability to install and set up units	
		ability to demonstrate unit to customer	
		ability to advise customer of company policies and warranty policies	
		ability to communicate pertinent repair/defect information	
		ability to respond to customer concerns and customer satisfaction	
		ability to obtain customer sign-off	
		ability to obtain payment	
		knowledge of product and special features and specifications	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
25.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 26 **Services printers.**

Trend: Because of multi uses of printers, they are becoming more and more complex and more difficult to repair.

	Sub-tasks	Enabling Objectives	Tools & Equipment
26.01	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

26.02	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of company work volume	
		knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
26.03	Performs pre-service functional tests.	ability to apply power	computer
		ability to attach to signal source	
		ability to power up	
		ability to check all special features	
		ability to check cosmetics of set	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
26.04	Disassembles units.	ability to prepare unit and work area for disassembly	mechanical diagrams/ drawings, equipment specifications, operating procedures, hex drivers, solder irons, solder wicks
		ability to select and use tools	
		ability to follow manufacturers' disassembly procedures	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of local, provincial and federal government regulations knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

26.05	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component	multimeters, ground straps, diskettes, computer software

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

26.06	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component	solder irons, solder wicks, flux removers, cutters, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to order parts	
		ability to repair faulty circuits or components	
		ability to clean circuits and components	
		ability to recognize warranty and non-warranty situations	
		ability to obtain exact replacement or suitable substitute parts	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

26.07	Sets up and tests units.	ability to ensure unit complies with government regulations	diskettes

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to attach to power source	
		ability to attach to signal source	
		ability to power up	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions and troubleshoot	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of component identification methods	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
26.08	Performs routine maintenance.	ability to clean controls	cleaning fluids, vacuum brushes, lubricants, magnifying glass
		ability to align	
		ability to verify operation of controls	
		ability to clean cosmetics of item	
		ability to verify all safety devices are in place and functioning properly	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of product and special features and specifications knowledge of application of testing devices knowledge of cleaning chemicals and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

26.09	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications	safety procedures/ standards, diskettes, test documents

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
26.10	Reassembles units and performs final check.	ability to assemble	hex drivers, solder irons
		ability to prepare unit and work area for assembly	
		ability to select and use tools	
		ability to follow manufacturers' assembly procedures	
		ability to perform final functional test	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of cleaning chemicals and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
26.11	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of product and special features and specifications	safety procedures/ standards

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

26.12	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	calculator

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	knowledge of product and special features and specifications	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 27 Services modems. (NOT COMMON CORE)

Trend: Stand alone modems are becoming obsolete, resulting in very little servicing.

	Sub-tasks	Enabling Objectives	Tools & Equipment
27.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	no	yes	no	no	NV

	Sub-tasks	Enabling Objectives	Tools & Equipment
27.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of company documentation procedures	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
27.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
27.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check audio ability to check all special features ability to check cosmetics of set ability to recognize malfunctions ability to document results	telephone analyzer, computer, diagnostic routines, operating procedures

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
27.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of local, provincial and federal government regulations knowledge of product and special features and specifications	mechanical diagrams/ drawings, manufacturers' manuals/ software, allen keys, hex drivers, solder irons, solder suckers, solder wicks, electric screw/nut drivers, anti-static equipment, vacuum brushes

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
27.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer	logic diagrams, schematic diagrams, equipment specifications, operating procedures, testing procedures, safety procedures/standards, manufacturers' manuals/ software, alignment

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of troubleshooting techniques	tools, solder irons, solder suckers, solder wicks, flux removers, heat gun, anti-static equipment, freeze spray, multimeters, oscilloscopes, component testers, RAM/ROM testers, variable voltage/current supplies, variac, jumper wire, transistor checker, capacitor checker, induction meter, telephone analyzer, hot air equipment, mats, ground straps, inspection mirrors, diagnostic routines, magnifiers

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
27.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures	cutters, allen keys, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, glue gun, anti-static equipment, cleaning fluids, mats, ground straps, anti-static sprays, magnifiers, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

27.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of troubleshooting techniques	equipment specifications, operating procedures, testing procedures, manufacturers' manuals/ software, heat gun, multimeters, oscilloscopes, telephone analyzer, computer, test cables

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
27.09	Performs routine maintenance.	ability to clean controls ability to align ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	maintenance procedures, cleaning fluids, cloths, vacuum brushes, telephone analyzer, computer, inspection mirrors, magnifying glass

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
27.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques **(NOT COMMON CORE)**	safety procedures/ standards, operating procedures, manufacturers' manuals/ software, computer

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

27.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools	mechanical diagrams/ drawings, manufacturers' manuals/ software, hex drivers, solder irons, electric screw/nut drivers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of electro static discharge techniques **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

27.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of product and special features and specifications	safety procedures/ standards, light to medium-sized truck

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

27.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts **(NOT COMMON CORE)**	calculator, safety procedures/standards

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

BLOCK G SERVICE MICROWAVE EQUIPMENT COMPONENTS AND APPLIANCES

Task 28 Services microwave ovens.

Trend: Because of the reducing cost of units and increasing cost of parts, service opportunities are reducing.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
28.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
28.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
28.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

28.04	Performs pre-service functional tests.	ability to apply power ability to connect and operate test equipment ability to perform safety checks ability to power up ability to check all special features ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods	leakage tester, microwave radiation detectors, high voltage probe, multimeter, soldering iron

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

28.05	Disassembles units.	ability to prepare unit and work area for disassembly	hex drivers
		ability to select and use tools	
		ability to follow manufacturers' disassembly procedures	
		knowledge of local, provincial and federal government regulations	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

28.06	Troubleshoots faults.	ability to prepare unit for troubleshooting	multimeters, schematic diagrams, amp probe, solder irons, solder wicks, solder suckers, flux removers, microwave radiation detector, high voltage probe
		ability to perform non-technical inspections	
		ability to recognize need to consult with another technician or manufacturer	
		ability to perform visual inspection	
		ability to recognize malfunctions	
		ability to read schematics	
		ability to select, connect and correctly interpret readings from required test equipment	
		ability to document results	
		ability to communicate results to other personnel	
		ability to recognize warranty and non-warranty situations	
		knowledge of product and special features and specifications	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

28.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations	multimeters, schematic diagrams, amp probe, solder irons, solder wicks, solder suckers, flux removers, micro-wave radiation detector, hex drivers, de-soldering tools, scope, high voltage probe

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to obtain exact replacement or suitable substitute parts	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	
		knowledge of high voltage safety procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

28.08	Sets up and tests units.	ability to ensure unit complies with government regulations	micro-wave radiation detectors, operating procedures
		ability to attach to power source	
		ability to power up	
		ability to check all features	
		ability to perform safety checks	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to check cosmetics	
	ability to recognize malfunctions and troubleshoot	
	ability to document results	
	ability to communicate results to other technicians	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) servicing techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
28.09	Performs routine maintenance.	ability to clean controls ability to align ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	cleaning fluids, cloths, lubricants, swabs, oilers, micro-wave radiation detector, magnifying glass

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
28.10	Performs post-service functional tests.	ability to attach to power source ability to power up ability to perform safety checks ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	safety procedures/ standards, micro-wave radiation detectors, operating procedures

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
28.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform safety checks ability to perform final functional test knowledge of product and special features and specifications knowledge of application of testing devices	hex drivers, micro-wave radiation detectors, operating procedures

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
28.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information	safety procedures/ standards

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of product and special features and specifications	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

28.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	calculator

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 29 Services microwave clothes dryers. (NOT COMMON CORE)

Trend: More manufacturers are bringing these to market, so servicing will increase

	Sub-tasks	Enabling Objectives	Tools & Equipment
29.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to respond to unrealistic customer expectations	
		knowledge of unit operation and potential problems	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
29.02	Processes work orders.	ability to determine name, address and phone numbers of customer	
		ability to determine name and model number of unit	
		ability to write up symptoms	
		knowledge of company documentation procedures	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
29.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries	
		ability to obtain customer signature on work order	
		knowledge of company work volume	
		knowledge of company credit policy	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
29.04	Performs pre-service functional tests.	ability to apply power	leakage tester, micro-wave radiation detectors, AC line testers/monitors
		ability to power up	
		ability to perform safety checks	
		ability to connect and operate test equipment	
		ability to check all special features	
		ability to check cosmetics of set	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

29.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of local, provincial and federal government regulations knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical)	allen keys, hex drivers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

29.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of product and special features and specifications	mechanical diagrams/ drawings, multimeters, high voltage probe, micro-wave radiation detector, hammers, cleaning fluids, lubricants, swabs, oilers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

29.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components	mechanical diagrams/ drawings, multimeters, high voltage probe, micro-wave radiation detector, hammers, cleaning fluids, lubricants, swabs, oilers, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to recognize warranty and non-warranty situations	
		ability to obtain exact replacement or suitable substitute parts	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

29.08	Sets up and tests units.	ability to ensure unit complies with government regulations	safety procedures/ standards, micro-wave radiation detectors
		ability to attach to power source	
		ability to power up	
		ability to perform safety checks	

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions and troubleshoot	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

29.09	Performs routine maintenance.	ability to clean controls ability to align ability to verify operation of controls	lubricants, allen keys, hex drivers, micro-wave radiation detector, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to clean cosmetics of item	
		ability to verify all safety devices are in place and functioning properly	
		ability to perform routine mechanical and electronic adjustments/ alignments	
		ability to identify/document weaknesses or potential problems	
		knowledge of precision mechanisms and fine mechanical adjustments	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

29.10	Performs post-service functional tests.	ability to attach to power source ability to power up	safety procedures/ standards, multimeters,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	bility to perform safety checks	micro-wave radiation detectors
	ability to check all features	
	ability to check cosmetics	
	ability to recognize malfunctions	
	ability to document results	
	ability to communicate results to other technicians	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) servicing techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
29.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform safety checks ability to perform final functional test knowledge of product and special features and specifications knowledge of application of testing devices **(NOT COMMON CORE)**	allen keys, hex drivers

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
29.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies	safety procedures/ standards, allen keys, hex drivers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of product and special features and specifications	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

29.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

BLOCK H SERVICE REMOTE CONTROL EQUIPMENT COMPONENTS AND DEVICES

Task 30 Services radio frequency remote control devices.

Trend: Because of the low cost of product, servicing opportunities are limited.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
30.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
30.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
30.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

30.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check all features ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of cleaning chemicals and procedures	operating procedures, manufacturers' manuals/ software, oscilloscopes

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

30.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools	hex drivers, soldering iron

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to follow manufacturers' disassembly procedures	
		knowledge of de-soldering and soldering techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

30.06	Troubleshoots faults.	ability to prepare unit for troubleshooting	oscilloscopes, solder irons, solder wicks
		ability to perform non-technical inspections	
		ability to recognize need to consult with another technician or manufacturer	
		ability to perform visual inspection	
		ability to recognize malfunctions	
		ability to read schematics	
		ability to isolate receiver fault to sub-assembly/circuit/component	
		ability to select, connect and correctly interpret readings from required test equipment	
		ability to document results	
		ability to communicate results to other personnel	
		ability to recognize warranty and non-warranty situations	
		knowledge of product and special features and specifications	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

30.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component	solder irons, solder wicks, de-soldering tools
		ability to verify proper installation	
		ability to verify integrity of board and neighboring components	
		ability to select and replace component	
		ability to order parts	
		ability to repair faulty circuits or components	
		ability to clean circuits and components	
		ability to recognize warranty and non-warranty situations	
		ability to obtain exact replacement or suitable substitute parts	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of DOC/FCC rules and legislation knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

30.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check all features ability to check cosmetics	operating procedures, oscilloscopes

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to recognize malfunctions and troubleshoot	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

30.09	Performs routine maintenance.	ability to clean controls	cleaning fluids, swabs, magnifying glass
		ability to align	
		ability to verify operation of controls	
		ability to clean cosmetics of item	
		ability to verify all safety devices are in place and functioning properly	
		ability to perform routine mechanical and electronic adjustments/ alignments	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of product and special features and specifications knowledge of DOC/FCC rules and regulations knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

30.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians	safety procedures/ standards, oscilloscopes

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of product and special features and specifications knowledge of DOC/FCC rules and regulations knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
30.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of product and special features and specifications	hex drivers, soldering iron

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of DOC/FCC rules and regulations knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

30.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and ensure customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of product and special features and specifications	safety procedures/ standards

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of DOC/FCC rules and regulations knowledge of application of testing devices	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

30.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	calculator

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

Task 31 Services infrared remote control devices.

Trend: Because of the low cost of product, servicing opportunities are limited.

	Sub-tasks	Enabling Objectives	Tools & Equipment
31.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

31.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

31.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

31.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source	infrared tester

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to power up ability to check all features ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of cleaning chemicals and procedures infrared tester	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

31.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of local, provincial and federal government regulations knowledge of application of testing devices knowledge of de-soldering and soldering techniques	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

31.06	Troubleshoots faults.	ability to prepare unit for troubleshooting	infrared tester, multimeters, oscilloscopes, frequency counter
		ability to perform non-technical inspections	
		ability to recognize need to consult with another technician or manufacturer	
		ability to perform visual inspection	
		ability to recognize malfunctions	
		ability to read schematics	
		ability to isolate receiver fault to sub-assembly/circuit/component	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to select, connect and correctly interpret readings from required test equipment	
		ability to document results	
		ability to communicate results to other personnel	
		ability to recognize warranty and non-warranty situations	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

31.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component	solder irons, solder suckers, solder wicks, de-soldering tools
		ability to verify proper installation	
		ability to verify integrity of board and neighboring components	
		ability to select and replace component	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to order parts	
		ability to repair faulty circuits or components	
		ability to clean circuits and components	
		ability to recognize warranty and non-warranty situations	
		ability to obtain exact replacement or suitable substitute parts	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

31.08	Sets up and tests units.	ability to ensure unit complies with government regulations	infrared tester, multimeters, oscilloscopes
		ability to attach to power source	
		ability to attach to signal source	
		ability to power up	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

31.09	Performs routine maintenance.	ability to clean controls	cleaning fluids, swabs
		ability to verify operation of controls	
		ability to clean cosmetics of item	
		ability to verify all safety devices are in place and functioning properly	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to perform routine mechanical and electronic adjustments/ alignments	
		ability to identify/document weaknesses or potential problems	
		knowledge of precision mechanisms and fine mechanical adjustments	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

31.10	Performs post-service functional tests.	ability to attach to power source	
		ability to attach to signal source	
		ability to power up	
		ability to check all features	
		ability to check cosmetics	
		ability to recognize malfunctions	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

31.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures and perform safety checks ability to perform final functional test	safety procedures/standards

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of product and special features and specifications knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

31.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction	safety procedures/ standards

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to obtain customer sign-off ability to obtain payment knowledge of product and special features and specifications	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
31.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	computer, calculator, microfiche reader

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

BLOCK I SERVICE POWER SUPPLY EQUIPMENT COMPONENTS AND DEVICES

Task 32 Services AC/DC generators. (NOT COMMON CORE)

Trend: Lower prices and unavailability of parts and service information will make it harder to service.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
32.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
32.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
32.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of company work volume	
		knowledge of company credit policy	
		(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check all special features ability to check cosmetics of unit ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods	manufacturers' manuals/software, isolation transformer, anti-static equipment, fire extinguisher, multimeters, frequency counters, variable voltage/current supplies, AC line testers/ monitors, variac, jumper wire, induction meter, amp probe, dummy loads, reference charts, test charts, test cables, equipment dollies/carts, lifting/leveling devices

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of local, provincial and federal government regulations knowledge of product and special features and specifications knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods	cutters, allen keys, hex drivers, hammers, solder irons, solder suckers, solder wicks, flux removers, chisels, electric drills, electric screw/nut drivers, anti-static equipment, mats, ground straps, anti-static sprays, equipment dollies/carts, lifting/ leveling devices

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations	mechanical diagrams/drawings, logic diagrams, schematic diagrams, equipment specifications, operating procedures, maintenance procedures, installation procedures, testing procedures, safety procedures/standards, manufacturers' manuals/software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, chisels, i.c. pullers, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, rubber gloves, isolation transformer, anti-static equipment, fire extinguisher, fan,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, swabs, oilers, multimeters, continuity testers, oscilloscopes, circuit testers, component testers, logic probes, logic analyzers, frequency counters, variable voltage/current supplies, AC line testers/monitors, variac, jumper wire, transistor checker, capacitor checker, Z-meter, induction meter, amp probe, dummy loads, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, anti-static sprays, ground straps

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components	mechanical diagrams/ drawings, logic diagrams, schematic diagrams, equipment specifications, operating procedures, maintenance procedures, installation

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	procedures, testing procedures, safety procedures/standards, manufacturers' manuals/software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, chisels, i.c. pullers, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, rubber gloves, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, swabs, oilers, multimeters, continuity testers, oscilloscopes, circuit testers, component testers, logic probes, logic analyzers, frequency counters, variable voltage/current supplies, AC line testers/monitors, variac, jumper wire, transistor checker, capacitor checker, Z-meter, induction meter, amp probe, dummy loads, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
			routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, anti-static sprays, ground straps, de-soldering tools

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source/load ability to power up ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques	operating procedures, maintenance procedures, installation procedures, testing procedures, safety procedures/standards, manufacturers' manuals/software, isolation transformer, anti-static equipment, fire extinguisher, multimeters, frequency counters, variable voltage/current supplies, AC line testers/ monitors, variac, jumper wire, induction meter, amp probe, dummy loads, reference charts, test charts, test cables, equipment dollies/carts, lifting/leveling devices, growler

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.09	Performs routine maintenance.	ability to clean controls ability to align ability to fine tune ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of product and special features and specifications	mechanical diagrams/ drawings, logic diagrams, schematic diagrams, equipment specifications, operating procedures, maintenance procedures, installation procedures, testing procedures, safety procedures/standards, manufacturers' manuals/ software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, chisels, i.c. pullers, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	gun, heat gun, rubber gloves, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, ultrasonic cleaner, lubricants, oilers, multimeters, continuity testers, oscilloscopes, circuit testers, component testers, logic probes, logic analyzers, frequency counters, variable voltage/current supplies, AC line testers/monitors, variac, jumper wire, transistor checker, capacitor checker, Z-meter, induction meter, amp probe, dummy loads, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, anti-static sprays, ground straps, magnifying glass

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.10	Performs post-service functional tests.	ability to attach to power source	operating procedures, maintenance

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to attach to signal source ability to power up ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques **(NOT COMMON CORE)**	procedures, installation procedures, testing procedures, safety procedures/standards, manufacturers' manuals/ software, isolation transformer, anti-static equipment, fire extinguisher, multimeters, frequency counters, variable voltage/current supplies, AC line testers/ monitors, variac, jumper wire, induction meter, amp probe, dummy loads, reference charts, test charts, test cables, equipment dollies/carts, lifting/leveling devices

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly	cutters, allen keys, hex drivers, hammers, soldering irons, solder suckers, solder wicks,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of product and special features and specifications knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques **(NOT COMMON CORE)**	flux removers, chisels, electric drills, electric screw/nut drivers, anti-static equipment, mats, ground straps, anti-static sprays, equipment dollies/carts, lifting/leveling devices, soldering iron

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units	car, light to medium-sized truck, tow motor, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, rubber gloves, anti-static equipment, multimeters,

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	AC line testers/monitors, mini torch, mats, ground straps, anti-static sprays, test cables, equipment dollies/carts, lifting/ leveling devices, electrical tape

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.13	Completes documentation.	ability to bill customer	computer, calculator, microfiche reader

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to complete warranty claim	
	ability to calculate customer bill	
	ability to tag warranty parts	
	(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

Task 33 Services AC/DC converters/inverters.

Trend: More compact and miniaturized equipment and the use of computers will mean increased consumer demand and more frequent servicing opportunities.

	Sub-tasks	Enabling Objectives	Tools & Equipment
33.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem	
		ability to probe for specific symptoms	
		ability to reflect back and verify customer's recollection of symptoms	
		ability to respond to unrealistic customer expectations	
		knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

33.02	Processes work orders.	ability to determine name, address and phone numbers of customer	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

33.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

33.04	Performs pre-service functional tests.	ability to apply power ability to power up ability to check all special features ability to check cosmetics of unit ability to recognize malfunctions ability to document results ability to communicate results to other technicians	schematic diagrams, manufacturers' manuals/ software, hex drivers, multimeters, oscilloscopes, component testers, variable voltage/current supplies, AC line testers/monitors, variac, jumper wire, dummy loads, soldering iron

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
33.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of local, provincial and federal government regulations	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of product and special features and specifications knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

33.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate fault to sub-assembly/circuit/component	blueprints, schematic diagrams, cutters, solder irons, solder suckers, solder wicks, flux removers, cutters, strippers, crimpers, airbrushes, vacuum brushes, multimeters, continuity testers, AC line testers/monitors, power factor meters, variac, transistor checker

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to select, connect and correctly interpret readings from required test equipment	
		ability to document results	
		ability to communicate results to other personnel	
		ability to recognize warranty and non-warranty situations	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

33.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components	cutters, hex drivers, solder irons, solder suckers, solder wicks, flux removers, de-soldering tools

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to select and replace component	
	ability to order parts	
	ability to repair faulty circuits or components	
	ability to clean circuits and components	
	ability to recognize warranty and non-warranty situations	
	ability to obtain exact replacement or suitable substitute parts	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) servicing techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of troubleshooting techniques	
	(NOT COMMON CORE)	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
33.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to load ability to power up ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	schematics, testing procedures, safety procedures/standards, manufacturers' manuals/ software, multimeters, oscilloscopes, component testers

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
33.09	Performs routine maintenance.	ability to clean controls ability to align ability to fine tune ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical)	maintenance procedures, manufacturers' manuals/software, multimeters, oscilloscopes, variable voltage/current supplies, AC line testers/ monitors, power factor meters, capacitor checker, transistor checker, dummy loads, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

33.10	Performs post-service functional tests.	ability to attach to power source ability to attach to load ability to power up ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical)	safety procedures/ standards, schematic diagrams, manufacturers' manuals/ software, hex drivers, multimeters, oscilloscopes, component testers, variable voltage/current supplies, AC line testers/monitors, variac, jumper wire, dummy loads

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
33.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	manufacturers' manuals/ software

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
33.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical)	safety procedures/ standards, car, light to medium-sized truck

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
33.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	manufacturers' manuals/software

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

BLOCK J SERVICE ANTENNA SYSTEMS

Task 34 Services satellite antenna systems.

Trend: Smaller antenna size (i.e., DSS) result in more accessibility to urban areas for sales and service.

	Sub-tasks	Enabling Objectives	Tools & Equipment
34.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
34.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
34.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
34.04	Performs pre-service functional tests.	ability to attach to receiving source	equipment specifications, safety

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to power up	procedures/standards, mechanical diagrams/ drawings, field strength meter
	ability to check video signal level	
	ability to check audio signal level	
	ability to check all special features	
	ability to check transponders	
	ability to recognize malfunctions	
	ability to document results	
	ability to communicate results to other technicians	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
34.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of local, provincial and federal government regulations knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	hex drivers, hammers, ladder, test cables, lifting/leveling devices, manufacturers' manuals/software, safety procedures/standards

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

34.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections	mechanical diagrams/ drawings, testing procedures, safety procedures/ standards, burnishing tools, cutters,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to recognize need to consult with another technician or manufacturer	inclinometer, spectrum analyzer, safety belt, lifting/ leveling devices, diagnostic routines, spectrum analyzer, multimeters, lubricants, oilers, field strength meter
	ability to perform visual inspection	
	ability to recognize malfunctions	
	ability to read schematics	
	ability to isolate receiver fault to sub-assembly/circuit/component	
	ability to select, connect and correctly interpret readings from required test equipment	
	ability to document results	
	ability to communicate results to other personnel	
	ability to recognize warranty and non-warranty situations	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of component identification methods	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of satellite transmission	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

34.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods	equipment specifications, installation procedures, safety procedures/ standards, cutters, strippers, crimpers, allen keys, hammers, lubricants, oilers, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

34.08	Sets up and tests units.	ability to ensure unit complies with government regulations	spectrum analyzer, testing procedures, safety procedures/ standards
		ability to attach to power source	
		ability to attach to receiving source	
		ability to power up	
		ability to check audio	
		ability to check video	
		ability to check transponders	
		ability to check all features	
		ability to recognize malfunctions and troubleshoot	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

34.09	Performs routine maintenance.	ability to align ability to fine tune channels ability to verify operation of controls ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods	maintenance procedures, safety procedures/standards, lubricants, oilers, spectrum analyzer, ladder, test cables, lifting/leveling devices, electrical tape, lubricants, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures knowledge of satellite locations and transmission format knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PO	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
34.10	Performs post-service functional tests.	ability to attach to power source ability to attach to receiving source ability to power up ability to check audio ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices	spectrum analyzer, testing procedures, safety procedures/ standards

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

34.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques	equipment specifications, safety procedures/standards, manufacturers' manuals/software, hex drivers, hammers, ladder, test cables, lifting/leveling devices

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
34.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off	light to medium-sized truck, safety procedures/ standards, lifting/ levelling devices

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to obtain payment knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
34.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 35 **Services radio antenna systems. (NOT COMMON CORE)**

Trend: There is a decreasing need for servicing.

	Sub-tasks	Enabling Objectives	Tools & Equipment
35.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

	Sub-tasks	Enabling Objectives	Tools & Equipment
35.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
35.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
35.04	Performs pre-service functional tests.	ability to apply power ability to attach to receiving source ability to power up ability to check audio ability to check all special features ability to check tuner ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of de-soldering and soldering techniques	RF power meters, RF radiation detector, spectrum analyzer, dummy loads

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

35.05	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment	RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters, hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety belt, safety hat, gloves, tool pouch, safety boots

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		ability to document results	
		ability to communicate results to other personnel	
		ability to recognize warranty and non-warranty situations	
		knowledge of product and special features and specifications	
		knowledge of audible defects	
		knowledge of application of testing devices	
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	
		knowledge of specialized cable and connectors	
		knowledge of radio transmission systems	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

35.06	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation	RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to verify integrity of board and neighboring components	hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety belt, safety hat, de-soldering tools
	ability to select and replace component	
	ability to order parts	
	ability to repair faulty circuits or components	
	ability to clean circuits and components	
	ability to recognize warranty and non-warranty situations	
	ability to obtain exact replacement or suitable substitute parts	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
35.07	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to receiving source ability to power up ability to check audio ability to check tuner ability to check all features ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters, hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety belt, safety hat

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
35.08	Performs routine maintenance.	ability to align ability to fine tune channels ability to verify operation of controls ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	cleaning fluids, lubricants, oilers, RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters, hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety belt, safety hat, magnifying glass

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
35.09	Performs post-service functional tests.	ability to attach to power source ability to attach to receiving source ability to power up ability to check audio ability to check tuner ability to check all features ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical)	safety procedures/ standards, RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters, hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety belt, safety hat

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

35.10	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical)	RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters, hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety belt, safety hat

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques knowledge of grounding techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

35.11	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of product and special features and specifications knowledge of troubleshooting techniques	safety procedures/ standards

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of grounding techniques	

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

35.12	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	calculator, computer

(NOT COMMON CORE)

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

Task 36 Services television antenna systems.

Trend: There is a decreasing need for servicing.

	Sub-tasks	Enabling Objectives	Tools & Equipment
36.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of unit operation and potential problems **(NOT COMMON CORE)**	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

36.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

36.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
36.04	Performs pre-service functional tests.	ability to attach to receiving source ability to check video ability to check audio ability to check all special features ability to check tuner ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	light to medium-sized truck, mechanical diagrams/drawings, testing procedures, safety procedures/ standards, manufacturers' manuals/software, measuring devices, hammers, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, electric screw/nut drivers, heat gun, safety belt, safety hat, RF radiation detectors, power factor meters, spectrum analyzer, dummy loads

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
36.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of local, provincial and federal government regulations knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of grounding techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	hex drivers, hammers, solder irons, solder suckers, electric hand grinder, adjustable wrench, ladder

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
36.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of matching devices knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical)	blueprints, mechanical diagrams/drawings, safety procedures/ standards, manufacturers' manuals/software, solder irons, solder suckers, cutters, strippers, crimpers, cleaning fluids, cloths, safety belt, safety hat, multimeters, continuity testers, oscilloscopes, RF generators, frequency counters, RF radiation detectors, power factor meters, ladder, freeze spray, spectrum analyzer

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

36.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures	blueprints, mechanical diagrams/drawings, safety procedures/ standards, manufacturers' manuals/software, solder irons, solder suckers, cutters, strippers, crimpers, cleaning fluids, cloths, safety belt, safety hat, multimeters, continuity testers, oscilloscopes, RF generators, frequency counters, RF radiation detectors, power factor meters, ladder, spectrum analyzer, de-soldering tools

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
36.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to receiving source ability to power up ability to check audio ability to check video ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of component identification methods	blueprints, mechanical diagrams/drawings, safety procedures/ standards, logic probes, solder irons, solder suckers, cutters, strippers, crimpers, safety belt, safety hat, cloths, cleaning fluids, multimeters, continuity testers, oscilloscopes, RF generators, frequency counters, RF radiation detectors, power factor meters

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques knowledge of safe work practices	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

36.09	Performs routine maintenance.	ability to clean controls ability to align ability to fine tune channels ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of component identification methods	blueprints, mechanical diagrams/drawings, safety procedures/ standards, manufacturers' manuals/software, solder irons, solder suckers, cutters, strippers, crimpers, safety belt, safety hat, cleaning fluids, cloths, multimeters, continuity testers, oscilloscopes, RF generators, frequency counters, RF radiation detectors, power factor meters, ladder, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
36.10	Performs post-service functional tests.	ability to attach to receiving source ability to power up ability to check audio ability to check video ability to check tuner ability to check all features ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of de-soldering and soldering techniques	light to medium-sized truck, mechanical diagrams/drawings, installation procedures, testing procedures, safety procedures/ standards, manufacturers' manuals/software, measuring devices, hammers, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, heat gun, safety belt, safety hat, RF radiation detectors, power factor meters, head phones, dummy loads

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

36.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of component identification methods	safety belt, safety hat, ladder, logic probes, soldering irons, solder suckers, cutters, strippers, crimpers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

36.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment knowledge of product and special features and specifications	safety procedures/ standards, light to medium-sized truck

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of audible defects knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

36.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	manufacturers' manuals/software

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 37 Services cellular phone antennas.

Trend: There is a decreasing need for servicing.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
37.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
37.02	Processes work orders.	ability to determine name, address and phone numbers of customer ability to determine name and model number of unit ability to write up symptoms knowledge of company documentation procedures	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
37.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of company credit policy	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.04	Performs pre-service functional tests.	ability to apply power	
		ability to attach to receiving source	
		ability to check audio	
		ability to check all special features	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		ability to check receiver/transmitter	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques RF power meter	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
37.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers' disassembly procedures knowledge of local, provincial and federal government regulations knowledge of product and special features and specifications knowledge of audible defects knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	cutters, allen keys, test cables, electrical tape

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
37.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-assembly/circuit/component ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel ability to recognize warranty and non-warranty situations knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of specialized cable and connectors knowledge of radio transmission systems	RF power meters, cutters, allen keys, test cables, electrical tape, multimeters, continuity testers, RF radiation detector, jumper wire

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of component identification methods	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
37.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component	cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, cutters, allen keys, test cables, electrical tape, multimeters, continuity testers, RF jumper wire, de-soldering tools, soldering iron
		ability to verify proper installation	
		ability to verify integrity of board and neighboring components	
		ability to select and replace component	
		ability to order parts	
		ability to repair faulty circuits or components	
		ability to clean circuits and components	
		ability to recognize warranty and non-warranty situations	
		ability to obtain exact replacement or suitable substitute parts	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

37.08	Sets up and tests units.	ability to ensure unit complies with government regulations	RF power meters, RF radiation detector
		ability to attach to power source	
		ability to attach to receiving source	
		ability to check audio	
		ability to check all features	
		ability to recognize malfunctions and troubleshoot	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.09	Performs routine maintenance.	ability to verify operation of controls ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/ alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods	cleaning fluids, RF power meter, test cables, electrical tape, magnifying glass

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.10	Performs post-service functional tests.	ability to attach to power source ability to attach to receiving source ability to check audio ability to check all features ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods	safety procedures/ standards, RF power meters, RF radiation detector

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers' assembly procedures ability to perform final functional test knowledge of product and special features and specifications knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures	cutters, allen keys, feeler gauges, hammers, cutters, strippers, crimpers

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units	safety procedures/ standards
		ability to store units	
		ability to drive to job location when applicable	
		ability to deliver units	
		ability to install and set up units	
		ability to demonstrate unit to customer	
		ability to advise customer of company policies and warranty policies	
		ability to communicate pertinent repair/defect information	
		ability to respond to customer concerns and customer satisfaction	
		ability to obtain customer sign-off	
		ability to obtain payment	
		knowledge of product and special features and specifications	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of troubleshooting techniques	

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
37.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	calculator, computer

NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

APPENDICES

APPENDIX "A"

TOOLS AND EQUIPMENT

Vehicles

car
light to medium-sized truck
tow motor

Technical Documents

blueprints
equipment specifications
installation procedures
logic diagrams
maintenance procedures
manufacturers' manuals/software
mechanical diagrams/drawings
operating procedures
safety procedures/standards
schematic diagrams
testing procedures

Hand Tools

alignment tools
allen keys
burnishing tools
cutters
feeler gauges
hammers
hex drivers
knife
measuring devices
pliers
screwdrivers
wrenches

Soldering/De-soldering Equipment

flux removers
solder irons
solder suckers
solder wicks

Mechanical Gauges

tension
torque
thickness
test/strobes
micrometer
video disks
tapes/CD/records

Component Insertion and Extraction Tools

chisels
head pullers

Cable Preparation Tools

crimpers
cutters
strippers

Power Tools

electric drills
electric screw/nut drivers
glue gun
heat gun

Safety Equipment

antistatic equipment
ear protection
fan
fire extinguisher
goggles
isolation transformer
masks
rubber gloves
safety belt
safety hat
safety shoes

Cleaning Equipment

airbrushes
brushes
cleaning fluids
cloths
swabs
ultrasonic cleaner
vacuum brushes

Others

calculator
diagnostic routines
electrical tape
equipment dollies/carts
flashlight
freeze spray
inspection mirrors
ladder
lifting/leveling devices
magnifiers
reference charts
temperature probes
test cables
test charts

Test Equipment

AC line testers/monitors
AF generators
amp probe
capacitor checker
circuit testers
computer
continuity testers
CRT checker and rujuvenator
data generators
db/dbm meters
decade boxes
degaussing equipment
distortion analysers
dot/bar generators
dummy loads
frequency counters
function generators
head checker
head phones
high voltage probe
hot air equipment
induction meter
infrared tester
jumper wire
laser power meter
light box
light meters/colour temp
logic analysers
logic probes
micro-wave radiation detectors
microfiche reader
mini torch
multimeters
ND tester
NTSC generators
oscilloscopes
power factor meters
RAM/ROM testers
RF generators
RF power meters
RF radiation detectors
spectrum analyzer
telephone analyzer
test monitors
test speakers
tracker
transistor checker
vacuum tube tester
variable voltage/current supplies
variac
vector scope
vibration testers
white/pink noise generators
wow & flutter
X-ray and particle detectors
Z-meter

Anti-Static Equipment

mats
ground straps
sprays

Lubricating Equipment

lubricants
swabs
oilers

APPENDIX "B"

LIST OF ACRONYMS

A/D	Analog/Digital
AF	Audio Frequency
ALC	Automatic Level Control
AM	Amplitude Modulation
AVC	Automatic Volume Control
BNC	Cable Connector
CAD	Computer-aided Drafting
CADD	Computer-aided Design/drafting
CAE	Computer-aided Engineering
CAM	Computer-aided Manufacturing
CATV	Community Antenna Television
CCD	Charge-coupled Device
CCM	Computer-controlled Manufacturing
CCTV	Closed Circuit Television
CIM	Computer Integrated Manufacturing
CP/M	Control Program/Microcomputer
CPU	Central Processing Unit
CRT	Cathode Ray Tube
CSA	Canadian Standards Association
db	Decibel
dbm	Decibels Referenced to 1mW
dbx	Crosstalk Reference Coupling
DIP	Dual in-line Package
DOC	Department of Communications
DOT	Department of Transport
EOL	End-of-line
EPROM	Electrical Programmable Read Only Memory
F	Cable Connector
FCC	Federal Communication Commission (USA)
FM	Frequency Modulation
FMS	Flexible Manufacturing Systems
HF	High Frequency
I/O	Input/output
IC	Integrated Circuit
IF	Intermediate Frequency
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LF	Low Frequency
LNA	Low Noise Amplifier
LSI	Large-scale Integration
MF	Medium Frequency

MP/M	Multi-user Computer Operating System
N	Cable Connector
NC	Numerical Control
NTSC	National Television Systems Committee (USA)
PC	Programmable Controllers
PCB	Printed Circuit Board
PC-DOS	Personal Computer-Disk Operating System
PCM	Pulse Code Modulation
PLC	Programmable Logic Controllers
PROM	Programmable Read Only Memory
R/W	Read/Write
RAM/ROM	Random Access Memory/Read Only Memory
RCA	Radio Corporation of America
RF	Radio Frequency
ROM	Read Only Memory
RS-232	Serial Interface Standard
SSB	Single Sideband
UHF	Ultra High Frequency
ULC	Underwriters Lab
UNIX	Multi-User Computer Operating System
VAX/VMS	Multi-User Computer Operating System
VDU	Video Display Unit
VHF	Very High Frequency
VSWR	Voltage-Standing-wave Ratio
WP	Word Processor

PERCENTAGE RATINGS

BLOCK A SAFETY

Task 1 Demonstrates safe working practices and techniques.

BLOCK B WORKPLACE PRACTICES AND PROCEDURES

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	8	14	10	ND	NV	2	1	5	20	6	NV	8%

Task 2 Follows Company Policies and Procedures.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	17	5	10	ND	NV	5	25	10	25	6	NV	13%

Task 3 Applies written and verbal communication skills.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	21	28	20	ND	NV	5	25	40	10	56	NV	25%

Task 4 Uses and maintains equipment and tools.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	23	60	60	ND	NV	40	20	30	40	15	NV	36%

Task 5 Disposes of Equipment, Components or Devices.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	11	2	5	ND	NV	5	10	10	10	8	NV	8%

Task 6 Upgrades skills and knowledge.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	28	5	5	ND	NV	45	20	10	15	15	NV	18%

BLOCK C SERVICE AUDIO EQUIPMENT COMPONENTS AND DEVICES

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	24	15	20	ND	NV	21	30	21	30	16	NV	22%

Task 7 Services digital and analog audio recording and playback systems and associated components.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	43	30	50	ND	NV	70	45	45	25	2	NV	39%

Task 8 Services radio receivers and transmitters.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	18	30	5	ND	NV	5	10	20	20	15	NV	15%

Task 9 Services musical systems and instruments.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	13	10	5	ND	NV	5	10	5	15	3	NV	8%

Task 10 Services audio amplification systems.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	26	30	40	ND	NV	20	35	30	40	80	NV	38%

BLOCK D SERVICE VIDEO EQUIPMENT COMPONENTS AND DEVICES

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	38	50	50	ND	NV	25	40	41	40	27	NV	39%

Task 11 Services televisions.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	36	40	40	ND	NV	50	35	30	55	30	NV	39%

Task 12 Services video players/recorders.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	36	45	46	ND	NV	10	35	35	30	37	NV	34%

Task 13 Services monitors.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	4	2	5	ND	NV	5	10	10	5	2	NV	5%

Task 14 Services video entertainment equipment.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	6	3	1	ND	NV	4	5	5	5	2	NV	4%

Task 15 Services satellite receiver systems.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	3	5	1	ND	NV	10	5	5	0	1	NV	4%

Task 16 Services video cameras.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	11	2	5	ND	NV	15	10	10	5	20	NV	10%

Task 17 Services cable converters and decoders.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	4	2	1	ND	NV	3	0	2	0	3	NV	2%

Task 18 Services video display devices. **(NOT COMMON CORE)**

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	0	1	1	ND	NV	3	0	3	0	5	NV	2%

BLOCK E SERVICE TELEPHONE ANSWERING EQUIPMENT COMPONENTS AND DEVICES

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	4	1	2	ND	NV	5	4	7	5	27	NV	7%

Task 19 Services cellular phones. **(NOT COMMON CORE)**

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	0	20	90	ND	NV	5	0	5	0	2	NV	15%

Task 20 Services cordless phones.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	31	20	5	ND	NV	30	25	25	40	40	NV	27%

Task 21 Services fax machines.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	38	20	3	ND	NV	30	25	35	0	5	NV	20%

Task 22 Services answering machines.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	31	20	1	ND	NV	30	25	30	40	45	NV	28%

Task 23 Services corded phones.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	0	20	1	ND	NV	5	25	5	20	8	NV	10%

BLOCK F SERVICE COMPUTER EQUIPMENT COMPONENTS AND DEVICES

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	4	5	3	ND	NV	15	7	12	0	6	NV	7%

Task 24 Services computer monitors.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	46	15	50	ND	NV	15	50	40	0	40	NV	37%

Task 25 Services computer hardware.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	0	40	5	ND	NV	40	30	25	0	20	NV	23%

Task 26 Services printers.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	46	40	40	ND	NV	40	20	30	0	20	NV	34%

Task 27 Services modems. **(NOT COMMON CORE)**

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	8	5	5	ND	NV	5	0	5	0	20	NV	6%

BLOCK G SERVICE MICROWAVE EQUIPMENT COMPONENTS AND APPLIANCES

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	13	7	6	ND	NV	5	1	5	1	6	NV	6%

Task 28 Services microwave ovens.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	100	100	100	ND	NV	100	100	100	100	100	NV	100%

Task 29 Services microwave clothes dryers. **(NOT COMMON CORE)**

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	0	0	0	ND	NV	0	0	0	0	0	NV	0%

BLOCK H SERVICE REMOTE CONTROL EQUIPMENT COMPONENTS AND DEVICES

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	8	2	3	ND	NV	2	4	4	4	6	NV	4%

Task 30 Services radio frequency remote control devices.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	17	10	5	ND	NV	10	30	20	20	0	NV	14%

Task 31 Services infrared remote control devices.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	83	90	95	ND	NV	90	70	80	80	100	NV	86%

BLOCK I SERVICE POWER SUPPLY EQUIPMENT COMPONENTS AND DEVICES

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	1	1	1	ND	NV	20	10	2	0	0	NV	4%

Task 32 Services AC/DC generators. **(NOT COMMON CORE)**

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	63	0	5	ND	NV	5	0	0	0	0	NV	12%

Task 33 Services AC/DC converters/inverters.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	37	100	95	ND	NV	95	100	100	0	0	NV	88%

BLOCK J SERVICE ANTENNA SYSTEMS

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	0	5	5	ND	NV	5	3	3	0	6	NV	3%

Task 34 Services satellite antenna systems.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	0	70	20	ND	NV	25	33	30	0	14	NV	32%

Task 35 Services radio antenna systems. **(NOT COMMON CORE)**

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	0	5	5	ND	NV	25	0	10	0	0	NV	8%

Task 36 Services television antenna systems.

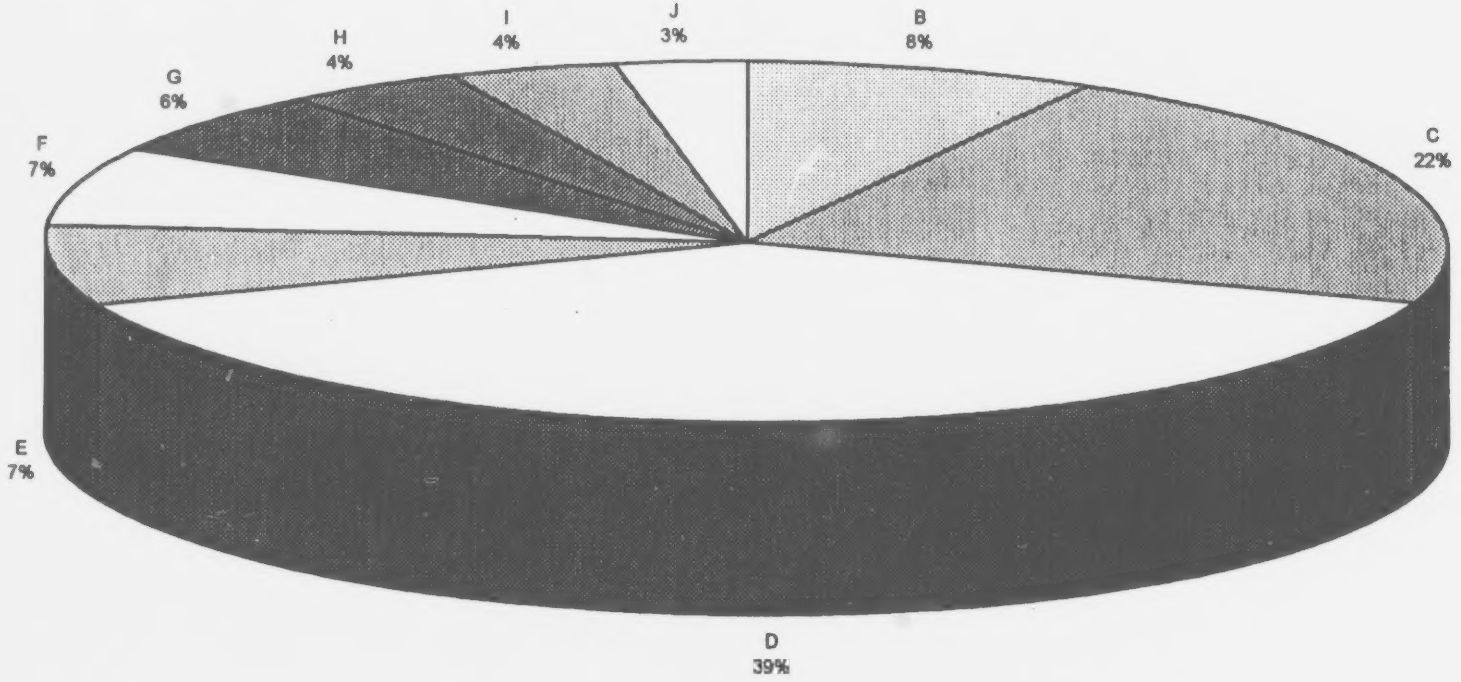
%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	0	20	15	ND	NV	30	33	55	0	29	NV	30%

Task 37 Services cellular phone antennas.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	0	5	60	ND	NV	20	34	5	0	57	NV	30%

BLOCK PERCENTAGES *

Electronics Technician - Consumer Products



* The average time a worker spends performing each block in a given year in relation to other blocks of the analysis, taking into consideration the complexity (importance plus difficulty) of the block.

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS

TITLES OF BLOCKS

A	SAFETY **
B	WORKPLACE PRACTICES AND PROCEDURES
C	SERVICE AUDIO EQUIPMENT COMPONENTS AND DEVICES
D	SERVICE VIDEO EQUIPMENT COMPONENTS AND DEVICES
E	SERVICE TELEPHONE ANSWERING EQUIPMENT COMPONENTS AND DEVICES
F	SERVICE COMPUTER EQUIPMENT COMPONENTS AND DEVICES
G	SERVICE MICROWAVE EQUIPMENT COMPONENTS AND APPLIANCES
H	SERVICE REMOTE CONTROL EQUIPMENT COMPONENTS AND DEVICES
I	SERVICE POWER SUPPLY EQUIPMENT COMPONENTS AND DEVICES
J	SERVICE ANTENNA SYSTEMS

** Since safety practices are a mandatory feature of all occupations, they are considered common core, ratings are not required and thus Block A does not appear on the chart.

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

	BLOCKS	TASKS	SUB-TASKS
A	**Safety**	1. Demonstrates safe working practices and techniques.	1.01 Obtains relevant laws and regulations. 1.02 Evaluates safety. 1.03 Practises safe work habits. 1.04 Uses personal protective equipment and clothing. 1.05 Practises good housekeeping. 1.06 Practises safe use of hand and power tools. 1.07 Works safely in enclosed areas. 1.08 Ensures proper fire protection. 1.09 Handles hazardous materials correctly and safely. 1.10 Attends safety meetings to obtain information on safety rules and safe work habits and procedures. 1.11 Reports accidents and applies first aid if necessary.
B	**Workplace Practices and Procedures**	2. Follows company policies and procedures.	2.01 Follows company ethics, policies and procedures. 2.02 Follows company customer relations policies and procedures. 2.03 Follows company service policies and procedures. 2.04 Follows company financial policies and procedures. 2.05 Follows company safety policies and procedures. 2.06 Follows company environmental policies and procedures. 2.07 Follows company warranty policies and procedures.
		3. Applies written and oral communication skills.	3.01 Identifies internal and external customers. 3.02 Provides and receives information to/from other employees. 3.03 Consults with external customers and responds to their concerns. 3.04 Completes required documentation. 3.05 Trains and coaches other employees. 3.06 Writes technical reports. 3.07 Reads technical reports. 3.08 Interprets technical terminology. 3.09 Reads and follows instructions. 3.10 Follows up with customers to ensure satisfaction. 3.11 Presents professional and courteous attitude to customers.
		4. Uses and maintains equipment and tools.	4.01 Uses and maintains vehicles. 4.02 Uses and maintains technical documents. 4.03 Uses and maintains hand tools. 4.04 Uses and maintains soldering/de-soldering equipment. 4.05 Uses and maintains component insertion and extraction tools. 4.06 Uses and maintains cable preparation tools. 4.07 Uses and maintains power tools. 4.08 Uses and maintains safety equipment. 4.09 Cleans tools and equipment. 4.10 Lubricates tools and equipment. 4.11 Uses and maintains test equipment. 4.12 Uses and maintains anti static equipment. 4.13 Uses and maintains miscellaneous tools and equipment.
		5. Disposes of equipment, components or devices.	5.01 Identifies equipment, components, or devices that require disposal. 5.02 Prepares equipment, components, or devices for disposal. 5.03 Disposes of or arranges for disposal of equipment, components, or devices.
		6. Upgrades skills and knowledge.	6.01 Upgrades skills and knowledge in theoretical areas. 6.02 Upgrades skills and knowledge in technological innovations. 6.03 Upgrades skills and knowledge in manufacturers' new products and upgrades. 6.04 Upgrades skills and knowledge in relevant government laws, policies and procedures. 6.05 Upgrades skills and knowledge in relevant business areas. 6.06 Upgrades skills and knowledge in customer relations areas.
C	**Service Audio Equipment Components and Devices**	7. Services digital and analog audio recording and playback systems and associated components.	7.01 Greets, interviews clients and verifies unit problems. 7.02 Processes work orders. 7.03 Informs customer of repair time frames and cost responsibilities. 7.04 Performs pre-service functional tests. 7.05 Disassembles units. 7.06 Troubleshoots faults. 7.07 Replaces or repairs faulty circuits and components. 7.08 Sets up and tests units. 7.09 Performs routine maintenance. 7.10 Performs post-service functional tests. 7.11 Reassembles units and performs final check.

* NOT COMMON CORE)

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

BLOCKS **TASKS** **SUB-TASKS**

- 7.12 Delivers/installs, sets up units, and demonstrates unit operation.
- 7.13 Completes documentation.

8. Services radio receivers and transmitters.

- 8.01 Greets, interviews clients and verifies unit problems.
- 8.02 Processes work orders.
- 8.03 Informs customer of repair time frames and cost responsibilities.
- 8.04 Performs pre-service functional tests.
- 8.05 Disassembles units.
- 8.06 Troubleshoots faults.
- 8.07 Replaces or repairs faulty circuits and components.
- 8.08 Sets up and tests units.
- 8.09 Performs routine maintenance.
- 8.10 Performs post-service functional tests.
- 8.11 Reassembles units and performs final check.
- 8.12 Delivers/installs, sets up units, and demonstrates unit operation.
- 8.13 Completes documentation.

9. Services musical systems and instruments.

- 9.01 Greets, interviews clients and verifies unit problems.
- 9.02 Processes work orders.
- 9.03 Informs customer of repair time frames and cost responsibilities.
- 9.04 Performs pre-service functional tests.
- 9.05 Disassembles units.
- 9.06 Troubleshoots faults.
- 9.07 Replaces or repairs faulty circuits and components.
- 9.08 Sets up and tests units.
- 9.09 Performs routine maintenance.
- 9.10 Performs post-service functional tests.
- 9.11 Reassembles units and performs final check.
- 9.12 Delivers/installs, sets up units, and demonstrates unit operation.
- 9.13 Completes documentation.

10. Services audio amplification systems.

- 10.01 Greets, interviews clients and verifies unit problems.
- 10.02 Processes work orders.
- 10.03 Informs customer of repair time frames and cost responsibilities.
- 10.04 Performs pre-service functional tests.
- 10.05 Disassembles units.
- 10.06 Troubleshoots faults.
- 10.07 Replaces or repairs faulty circuits and components.
- 10.08 Sets up and tests units.
- 10.09 Performs routine maintenance.
- 10.10 Performs post-service functional tests.
- 10.11 Reassembles units and performs final check.
- 10.12 Delivers/installs, sets up units, and demonstrates unit operation.
- 10.13 Completes documentation.

D **Service Video Equipment Components and Devices**

11. Services televisions.

- 11.01 Greets, interviews clients and verifies unit problems.
- 11.02 Processes work orders.
- 11.03 Informs customer of repair time frames and cost responsibilities.
- 11.04 Performs pre-service functional tests.
- 11.05 Disassembles units.
- 11.06 Troubleshoots faults.
- 11.07 Replaces or repairs faulty circuits and components.
- 11.08 Sets up and tests units.
- 11.09 Performs routine maintenance.
- 11.10 Performs post-service functional tests.
- 11.11 Reassembles units and performs final check.
- 11.12 Delivers/installs, sets up units, and demonstrates unit operation.
- 11.13 Completes documentation.

*** = (NOT COMMON CORE)**

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

BLOCKS	TASKS	SUB-TASKS										
	12. Services video players/recorders.	12.01 Greets, interviews clients and verifies unit problems.	12.02 Processes work orders.	12.03 Informs customer of repair time frames and cost responsibilities.	12.04 Performs pre-service functional tests.	12.05 Disassembles units.	12.06 Troubleshoots faults.	12.07 Replaces or repairs faulty circuits and components.	12.08 Sets up and tests units.	12.09 Performs routine maintenance.	12.10 Performs post-service functional tests.	12.11 Reassembles units and performs final check.
		12.12 Delivers/ installs, sets up units, and demonstrates unit operation.	12.13 Completes documentation.									
	13. Services monitors.	13.01 Greets, interviews clients and verifies unit problems.	13.02 Processes work orders.	13.03 Informs customer of repair time frames and cost responsibilities.	13.04 Performs pre-service functional tests.	13.05 Disassembles units.	13.06 Troubleshoots faults.	13.07 Replaces or repairs faulty circuits and components.	13.08 Sets up and tests units.	13.09 Performs routine maintenance.	13.10 Performs post-service functional tests.	13.11 Reassembles units and performs final check.
		13.12 Delivers/ installs, sets up units, and demonstrates unit operation.	13.13 Completes documentation.									
	14. Services video entertainment equipment.	14.01 Greets, interviews clients and verifies unit problems.	14.02 Processes work orders.	14.03 Informs customer of repair time frames and cost responsibilities.	14.04 Performs pre-service functional tests.	14.05 Disassembles units.	14.06 Troubleshoots faults.	14.07 Replaces or repairs faulty circuits and components.	14.08 Sets up and tests units.	14.09 Performs routine maintenance.	14.10 Performs post-service functional tests.	14.11 Reassembles units and performs final check.
		14.12 Delivers/ installs, sets up units, and demonstrates unit operation.	14.13 Completes documentation.									
	15. Services satellite receiver systems.	15.01 Greets, interviews clients and verifies unit problems.	15.02 Processes work orders.	15.03 Informs customer of repair time frames and cost responsibilities.	15.04 Performs pre-service functional tests.	15.05 Disassembles units.	15.06 Troubleshoots faults.	15.07 Replaces or repairs faulty circuits and components.	15.08 Sets up and tests units.	15.09 Performs routine maintenance.	15.10 Performs post-service functional tests.	15.11 Reassembles units and performs final check.
		15.12 Delivers/ installs, sets up units, and demonstrates unit operation.	15.13 Completes documentation.									
	16. Services video cameras.	16.01 Greets, interviews clients and verifies unit problems.	16.02 Processes work orders.	16.03 Informs customer of repair time frames and cost responsibilities.	16.04 Performs pre-service functional tests.	16.05 Disassembles units.	16.06 Troubleshoots faults.	16.07 Replaces or repairs faulty circuits and components.	16.08 Sets up and tests units.	16.09 Performs routine maintenance.	16.10 Performs post-service functional tests.	16.11 Reassembles units and performs final check.

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

BLOCKS	TASKS	SUB-TASKS										
		16.12 Delivers/ installs, sets up units, and demonstrates unit operation.	16.13 Completes documentation.									
	17. Services cable converters and decoders.	17.01 Greets, interviews clients and verifies unit problems.	17.02 Processes work orders.	17.03 Informs customer of repair time frames and cost responsibilities.	17.04 Performs pre-service functional tests.	17.05 Disassembles units.	17.06 Troubleshoots faults.	17.07 Replaces or repairs faulty circuits and components.	17.08 Sets up and tests units.	17.09 Performs routine maintenance.	17.10 Performs post-service functional tests.	17.11 Reassembles units and performs final check.
		17.12 Delivers/ installs, sets up units, and demonstrates unit operation.	17.13 Completes documentation.									
	18. Services video display devices. (Large projection television screen)*	18.01 Greets, interviews clients and verifies unit problems.*	18.02 Processes work orders.*	18.03 Informs customer of repair time frames and cost responsibilities.*	18.04 Performs pre-service functional tests.*	18.05 Disassembles units.*	18.06 Troubleshoots faults.*	18.07 Replaces or repairs faulty circuits and components.*	18.08 Sets up and tests units.*	18.09 Performs routine maintenance.*	18.10 Performs post-service functional tests.*	18.11 Reassembles units and performs final check.*
		18.12 Delivers/ installs, sets up units, and demonstrates unit operation.*	18.13 Completes documentation.*									
E **Service Telephone Answering Equipment Components and Devices**	**19.** Services cellular phones.*	19.01 Greets, interviews clients and verifies unit problems.*	19.02 Processes work orders.*	19.03 Informs customer of repair time frames and cost responsibilities.*	19.04 Performs pre-service functional tests.*	19.05 Disassembles units.*	19.06 Troubleshoots faults.*	19.07 Replaces or repairs faulty circuits and components.*	19.08 Sets up and tests units.*	19.09 Performs routine maintenance.*	19.10 Performs post-service functional tests.*	19.11 Reassembles units and performs final check.
		19.12 Delivers/ installs, sets up units, and demonstrates unit operation.*	19.13 Completes documentation.*									
	20. Services cordless phones.	20.01 Greets, interviews clients and verifies unit problems.	20.02 Processes work orders.	20.03 Informs customer of repair time frames and cost responsibilities.	20.04 Performs pre-service functional tests.	20.05 Disassembles units.	20.06 Troubleshoots faults.	20.07 Replaces or repairs faulty circuits and components.	20.08 Sets up and tests units.	20.09 Performs routine maintenance.	20.10 Performs post-service functional tests.	20.11 Reassembles units and performs final check.
		20.12 Delivers/ installs, sets up units, and demonstrates unit operation.	20.13 Completes documentation.									

* (NOT COMMON CORE)

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

BLOCKS

TASKS

SUB-TASKS

21. Services fax machines.

- 21.01 Greets, interviews clients and verifies unit problems.
- 21.02 Processes work orders.
- 21.03 Informs customer of repair time frames and cost responsibilities.
- 21.04 Performs pre-service functional tests.
- 21.05 Disassembles units.
- 21.06 Troubleshoots faults.
- 21.07 Replaces or repairs faulty circuits and components.
- 21.08 Sets up and tests units.
- 21.09 Performs routine maintenance.
- 21.10 Performs post-service functional tests.
- 21.11 Reassembles units and performs final check.
- 21.12 Delivers/installs, sets up units, and demonstrates unit operation.
- 21.13 Completes documentation.

22. Services answering machines.

- 22.01 Greets, interviews clients and verifies unit problems.
- 22.02 Processes work orders.
- 22.03 Informs customer of repair time frames and cost responsibilities.
- 22.04 Performs pre-service functional tests.
- 22.05 Disassembles units.
- 22.06 Troubleshoots faults.
- 22.07 Replaces or repairs faulty circuits and components.
- 22.08 Sets up and tests units.
- 22.09 Performs routine maintenance.
- 22.10 Performs post-service functional tests.
- 22.11 Reassembles units and performs final check.
- 22.12 Delivers/installs, sets up units, and demonstrates unit operation.
- 22.13 Completes documentation.

23. Services corded phones.

- 23.01 Greets, interviews clients and verifies unit problems.
- 23.02 Processes work orders.
- 23.03 Informs customer of repair time frames and cost responsibilities.
- 23.04 Performs pre-service functional tests.
- 23.05 Disassembles units.
- 23.06 Troubleshoots faults.
- 23.07 Replaces or repairs faulty circuits and components.
- 23.08 Sets up and tests units.
- 23.09 Performs routine maintenance.
- 23.10 Performs post-service functional tests.
- 23.11 Reassembles units and performs final check.
- 23.12 Delivers/installs, sets up units, and demonstrates unit operation.
- 23.13 Completes documentation.

F **Service Computer Equipment Components and Devices**

24. Services computer monitors.

- 24.01 Greets, interviews clients and verifies unit problems.
- 24.02 Processes work orders.
- 24.03 Informs customer of repair time frames and cost responsibilities.
- 24.04 Disassembles units.
- 24.05 Troubleshoots faults.
- 24.06 Replaces or repairs faulty circuits and components.
- 24.07 Sets up and tests units.
- 24.08 Performs routine maintenance.
- 24.09 Performs post-service functional tests.
- 24.10 Reassembles units and performs final check.
- 24.11 Delivers/installs, sets up units, and demonstrates unit operation.
- 24.12 Completes documentation.

25. Services computer hardware.

- 25.01 Greets, interviews clients and verifies unit problems.
- 25.02 Processes work orders.
- 25.03 Informs customer of repair time frames and cost responsibilities.
- 25.04 Performs pre-service functional tests.
- 25.05 Disassembles units.
- 25.06 Troubleshoots faults.
- 25.07 Replaces or repairs faulty circuits and components.
- 25.08 Sets up and tests units.
- 25.09 Performs routine maintenance.
- 25.10 Performs post-service functional tests.
- 25.11 Reassembles units and performs final check.

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

	BLOCKS	TASKS	SUB-TASKS										
			25.12 Delivers/ installs, sets up units, and demonstrates unit operation.	25.13 Completes documentation.									
		26. Services printers.	26.01 Processes work orders.	26.02 Informs customer of repair time frames and cost responsibilities.	26.03 Performs pre-service functional tests.	26.04 Disassembles units.	26.05 Troubleshoots faults.	26.06 Replaces or repairs faulty circuits and components.	26.07 Sets up and tests units.	26.08 Performs routine maintenance.	26.09 Performs post-service functional tests.	26.10 Reassembles units and performs final check.	26.11 Delivers/ installs, sets up units, and demonstrates unit operation.
			26.12 Completes documentation.										
		27. Services modems.*	27.01 Greets, interviews clients and verifies unit problems.*	27.02 Processes work orders.*	27.03 Informs customer of repair time frames and cost responsibilities.*	27.04 Performs pre-service functional tests.*	27.05 Disassembles units.*	27.06 Troubleshoots faults.*	27.07 Replaces or repairs faulty circuits and components.*	27.08 Sets up and tests units.*	27.09 Performs routine maintenance.*	27.10 Performs post-service functional tests.*	27.11 Reassembles units and performs final check.
			27.12 Delivers/ installs, sets up units, and demonstrates unit operation.*	27.13 Completes documentation.*									
G	**Service Microwave Equipment Components and Appliances**	**28.** Services microwave ovens.	28.01 Greets, interviews clients and verifies unit problems.	28.02 Processes work orders.	28.03 Informs customer of repair time frames and cost responsibilities.	28.04 Performs pre-service functional tests.	28.05 Disassembles units.	28.06 Troubleshoots faults.	28.07 Replaces or repairs faulty circuits and components.	28.08 Sets up and tests units.	28.09 Performs routine maintenance.	28.10 Performs post-service functional tests.	28.11 Reassembles units and performs final check.
			28.12 Delivers/ installs, sets up units, and demonstrates unit operation.	28.13 Completes documentation.									
		29. Services microwave clothes dryers.*	29.01 Greets, interviews clients and verifies unit problems.*	29.02 Processes work orders.*	29.03 Informs customer of repair time frames and cost responsibilities.*	29.04 Performs pre-service functional tests.*	29.05 Disassembles units.*	29.06 Troubleshoots faults.*	29.07 Replaces or repairs faulty circuits and components.*	29.08 Sets up and tests units.*	29.09 Performs routine maintenance.*	29.10 Performs post-service functional tests.*	29.11 Reassembles units and performs final check.
			29.12 Delivers/ installs, sets up units, and demonstrates unit operation.*	29.13 Completes documentation.*									

* – (NOT COMMON CORE)

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

	BLOCKS	TASKS	SUB-TASKS										
H	**Service Remote Control Equipment Components and Devices**	**30.** Services radio frequency remote control devices.	30.01 Greets, interviews clients and verifies unit problems. ☐	30.02 Processes work orders. ☐	30.03 Informs customer of repair time frames and cost responsibilities. ☐	30.04 Performs pre-service functional tests. ☐	30.05 Disassembles units. ☐	30.06 Troubleshoots faults. ☐	30.07 Replaces or repairs faulty circuits and components. ☐	30.08 Sets up and tests units. ☐	30.09 Performs routine maintenance. ☐	30.10 Performs post-service functional tests. ☐	30.11 Reassembles units and performs final check. ☐
			30.12 Delivers/ installs, sets up units, and demonstrates unit operation. ☐	30.13 Completes documentation. ☐									
		31. Services infrared remote control devices.	31.01 Greets, interviews clients and verifies unit problems. ☐	31.02 Processes work orders. ☐	31.03 Informs customer of repair time frames and cost responsibilities. ☐	31.04 Performs pre-service functional tests. ☐	31.05 Disassembles units. ☐	31.06 Troubleshoots faults. ☐	31.07 Replaces or repairs faulty circuits and components. ☐	31.08 Sets up and tests units. ☐	31.09 Performs routine maintenance. ☐	31.10 Performs post-service functional tests. ☐	31.11 Reassembles units and performs final check. ☐
			31.12 Delivers/ installs, sets up units, and demonstrates unit operation. ☐	31.13 Completes documentation. ☐									
I	**Service Power Supply Equipment Components and Devices**	**32.** Services AC/DC generators.*	32.01 Greets, interviews clients and verifies unit problems.* ☐	32.02 Processes work orders.* ☐	32.03 Informs customer of repair time frames and cost responsibilities.* ☐	32.04 Performs pre-service functional tests.* ☐	32.05 Disassembles units.* ☐	32.06 Troubleshoots faults.* ☐	32.07 Replaces or repairs faulty circuits and components.* ☐	32.08 Sets up and tests units.* ☐	32.09 Performs routine maintenance.* ☐	32.10 Performs post-service functional tests.* ☐	32.11 Reassembles units and performs final check. ☐
			32.12 Delivers/ installs, sets up units, and demonstrates unit operation.* ☐	32.13 Completes documentation.* ☐									
		33. Services AC/DC converters/inverters.	33.01 Greets, interviews clients and verifies unit problems. ☐	33.02 Processes work orders. ☐	33.03 Informs customer of repair time frames and cost responsibilities. ☐	33.04 Performs pre-service functional tests. ☐	33.05 Disassembles units. ☐	33.06 Troubleshoots faults. ☐	33.07 Replaces or repairs faulty circuits and components. ☐	33.08 Sets up and tests units. ☐	33.09 Performs routine maintenance. ☐	33.10 Performs post-service functional tests. ☐	33.11 Reassembles units and performs final check. ☐
			33.12 Delivers/ installs, sets up units, and demonstrates unit operation. ☐	33.13 Completes documentation. ☐									
J	**Service Antenna Systems**	**34.** Services satellite antenna systems.	34.01 Greets, interviews clients and verifies unit problems. ☐	34.02 Processes work orders. ☐	34.03 Informs customer of repair time frames and cost responsibilities. ☐	34.04 Performs pre-service functional tests. ☐	34.05 Disassembles units. ☐	34.06 Troubleshoots faults. ☐	34.07 Replaces or repairs faulty circuits and components. ☐	34.08 Sets up and tests units. ☐	34.09 Performs routine maintenance. ☐	34.10 Performs post-service functional tests. ☐	34.11 Reassembles units and performs final check. ☐

* - (NOT COMMON CORE)

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

BLOCKS	TASKS	SUB-TASKS
		34.12 Delivers/ installs, sets up units, and demonstrates unit operation. 34.13 Completes documentation.
	35. Services radio antenna systems.*	35.01 Greets, interviews clients and verifies unit problems.* 35.02 Processes work orders.* 35.03 Informs customer of repair time frames and cost responsibilities.* 35.04 Performs pre-service functional tests.* 35.05 Troubleshoots faults.* 35.06 Replaces or repairs faulty circuits and components.* 35.07 Sets up and tests units.* 35.08 Performs routine maintenance.* 35.09 Performs post-service functional tests.* 35.10 Reassembles units and performs final check.* 35.11 Delivers/ installs, sets up units, and demonstrates unit operation.* 35.12 Completes documentation.*
	36. Services television antenna systems.	36.01 Greets, interviews clients and verifies unit problems. 36.02 Processes work orders. 36.03 Informs customer of repair time frames and cost responsibilities. 36.04 Performs pre-service functional tests. 36.05 Disassembles units. 36.06 Troubleshoots faults. 36.07 Replaces or repairs faulty circuits and components. 36.08 Sets up and tests units. 36.09 Performs routine maintenance. 36.10 Performs post-service functional tests. 36.11 Reassembles units and performs final check. 36.12 Delivers/ installs, sets up units, and demonstrates unit operation. 36.13 Completes documentation.
	37. Services cellular phone antennas.	37.01 Greets, interviews clients and verifies unit problems. 37.02 Processes work orders. 37.03 Informs customer of repair time frames and cost responsibilities. 37.04 Performs pre-service functional tests. 37.05 Disassembles units. 37.06 Troubleshoots faults. 37.07 Replaces or repairs faulty circuits and components. 37.08 Sets up and tests units. 37.09 Performs routine maintenance. 37.10 Performs post-service functional tests. 37.11 Reassembles units and performs final check. 37.12 Delivers/ installs, sets up units, and demonstrates unit operation. 37.13 Completes documentation.

* = (NOT COMMON CORE)